

**Revision D:**

- RoHS PARTS LIST has been changed.

Please void OB455 REVISED EDITION-C.

# OUTDOOR UNIT SERVICE MANUAL

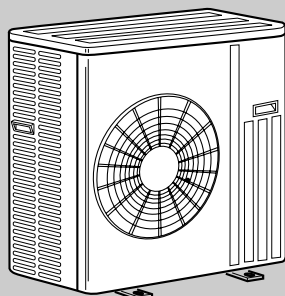


**No. OB455  
REVISED EDITION-D**

**Wireless type  
Models**

**MUZ-GB50VA** - **E1**  
**MUZ-GB50VA** - **E2**

**Indoor unit service manual  
MSZ-GB-VA Series (OB454)  
Refrigerant service manual  
R410A REFRIGERANT (OBR01)**



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**NOTE:**

- This service manual describes technical data of the outdoor units.



**Revision A:**

- Compressor has been changed.

|          | Model       | RoHS PARTS LIST number |
|----------|-------------|------------------------|
| Previous | SNB130FLDH  | E12 851 900            |
| New      | SNB130FLDH1 | E12 939 900            |

**Revision B:**

- REFRIGERANT SYSTEM DIAGRAM has been changed.
  - Oil separator has been added.
  - Capillary tube has been added. ( $\phi 1.8 \times \phi 0.6 \times 1000$ )
- MUZ-GB50VA-**E2** has been added.
- Check of outdoor thermistors(10-6.**B**) has been corrected.

**Revision C:**

- RoHS PARTS LIST has been changed.

**Revision D:**

- RoHS PARTS LIST has been changed.

**1****TECHNICAL CHANGES****MUZ-GA50VA -**E1** → MUZ- GB50VA -**E1****

1. Refrigerant filling capacity has been changed.
2. Outdoor electronic control P.C. board has been changed.

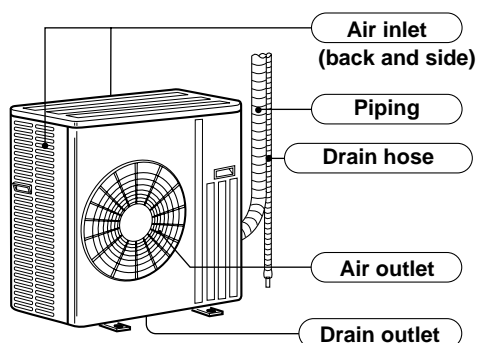
**MUZ-GB50VA -**E1** → MUZ- GB50VA -**E2****

1. Compressor has been changed. (SNB130FLDH1 → SNB130FLEH1)
2. Outdoor electronic control P.C. board has been changed.

## 2

## PART NAMES AND FUNCTIONS

### MUZ-GB50VA



### ACCESSORIES

|   |                     | MUZ-GB50VA |
|---|---------------------|------------|
| ① | Drain socket        | 1          |
| ② | Drain cap $\phi 33$ | 2          |

## 3

## SPECIFICATION

| Outdoor model                        |                                     |       | MUZ-GB50VA                                   |              |
|--------------------------------------|-------------------------------------|-------|--|--------------|
| Function                             |                                     |       | Cooling                                      | Heating      |
| Power supply                         |                                     |       | Single phase<br>230V,50Hz                    |              |
| Capacity                             | Capacity Rated frequency(Min.-Max.) | kW    | 5.0(0.9-5.8)                                 | 5.8(0.9-7.8) |
|                                      | Dehumidification                    | ℓ /h  | 2.5  | —            |
|                                      | Air flow *1(High/Low)               | m³ /h | 2,940/1,650                                  | 2,940/2,210  |
|                                      | Power outlet                        | A     | 20   |              |
|                                      | Running current *1                  | A     | 7.23   | 7.43         |
|                                      | Power input *1                      | W     | 1,610  | 1,660        |
|                                      | Power factor *1                     | %     | 97   |              |
| Electrical data                      | Starting current *1                 | A     | 7.46   |              |
|                                      | Compressor motor current *1         | A     | 6.91   | 7.11         |
|                                      | Fan motor current *1                | A     | 0.32   |              |
| Coefficient of performance(C.O.P) *1 |                                     |       | 3.03   | 3.41         |
| Compressor                           | Model                               | E1    | SNB130FLDH or SNB130FLDH1                    |              |
|                                      |                                     | E2    | SNB130FLEH1                                  |              |
|                                      | Output                              | W     | 850  |              |
|                                      | Winding resistance(at 20°C)         | Ω     | U-V 0.45 W-U 0.45<br>V-W 0.45                |              |
| Fan motor                            | Model                               |       | RC0J60-AA                                    |              |
|                                      | Winding resistance(at 20°C)         | Ω     | BLK-WHT 15.2<br>WHT-RED 15.2<br>RED-BLK 15.2 |              |
| Dimensions W×H×D                     |                                     |       | mm 840×850×330                               |              |
| Weight                               |                                     |       | kg 53  |              |
| Special remarks                      | Sound level *1(High/Low)            | dB(A) | 52/51  | 55/53        |
|                                      | Fan speed (High/Low)                | rpm   | 800/480                                      | 800/620      |
|                                      | Fan speed regulator                 |       | 2  |              |
|                                      | Refrigerant filling capacity(R410A) | kg    | 1.50   |              |
|                                      | Refrigeration oil (Model)           |       | NEO22  |              |

NOTE : Test conditions are based on ISO 5151.

Cooling : Indoor Dry-bulb temperature 27°C Wet-bulb temperature 19°C

Outdoor Dry-bulb temperature 35°C Wet-bulb temperature 24°C

Heating : Indoor Dry-bulb temperature 20°C Wet-bulb temperature 15°C

Outdoor Dry-bulb temperature 7°C Wet-bulb temperature 6°C

Refrigerant piping length (one way): 5m

\*1 Measured under rated operating frequency

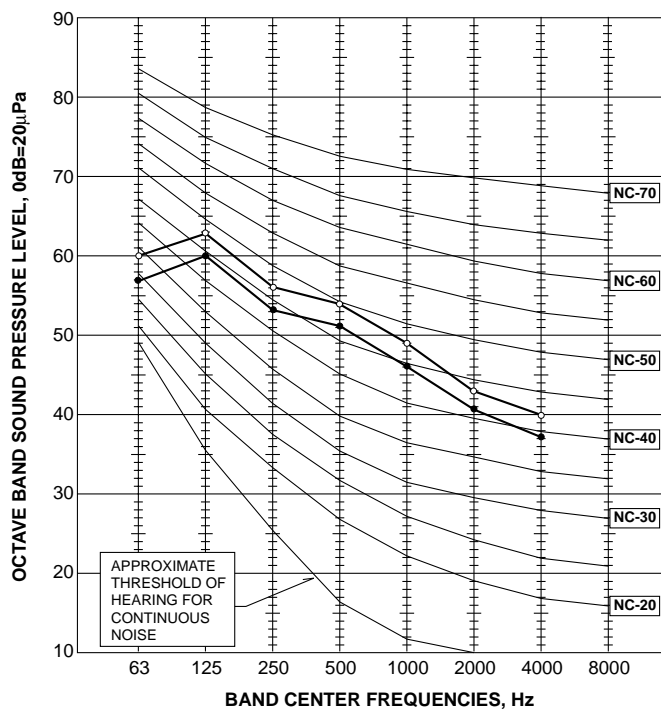
## Specifications and rating conditions of main electric parts

| Item                     | Model     | MUZ-GB50VA         |
|--------------------------|-----------|--------------------|
| Current transformer      | (CT1,2)   | ETQ19Z68AY         |
| Current transformer      | (CT61)    | ETQ19Z53AY         |
| Smoothing capacitor      | (CB1,2,3) | 560 $\mu$ F 450V   |
| Fuse                     | (F64)     | 250V 2A            |
| Fuse                     | (F801)    | 250V 3.15A         |
| Fuse                     | (F911)    | 250V 1A            |
| Expansion valve coil     | (LEV)     | CAM-MD12ME         |
| Intelligent power module | (IPM)     | PS21244-A          |
| Intelligent power module | (HC930)   | PS21661-RZ         |
| Reactor                  | (L)       | 340 $\mu$ H 20A    |
| Power factor controller  | (PFC)     | PS51259-A          |
| Resistor                 | (R64A,B)  | 10 $\Omega$ 10W    |
| Resistor                 | (R937A,B) | 1.1 $\Omega$ 2W 2% |
| Resistor                 | (RS1~4)   | 0.04 $\Omega$ 7W   |
| Solenoid coil relay      | (SSR61)   | TLP3506            |
| Terminal block           | (TB1)     | 3P                 |
| Terminal block           | (TB2)     | 3P                 |
| Relay                    | (X64)     | G4A                |
| R.V. coil                | (21S4)    | LD30013            |

## 4 NOISE CRITERIA CURVES

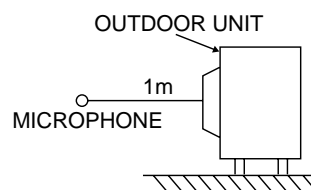
### MUZ-GB50VA

| FAN SPEED | FUNCTION | SPL(dB(A)) | LINE |
|-----------|----------|------------|------|
| High      | COOLING  | 52         | ●—●  |
|           | HEATING  | 55         | ○—○  |



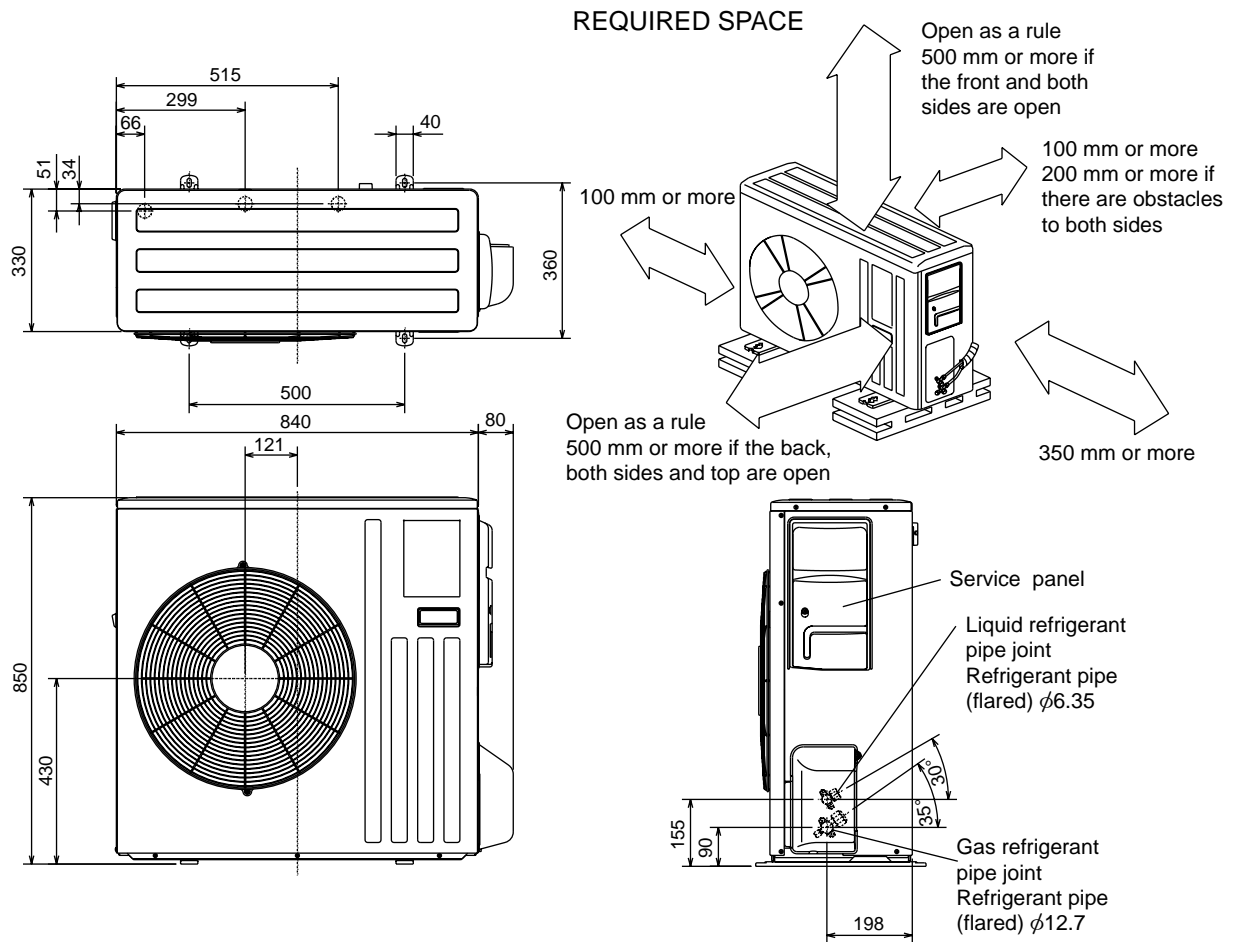
#### Test conditions

Cooling : Dry-bulb temperature 35°C  
Wet-bulb temperature (24°C)  
Heating : Dry-bulb temperature 7°C  
Wet-bulb temperature 6°C



MUZ-GB50VA

Unit: mm



## WIRING DIAGRAM

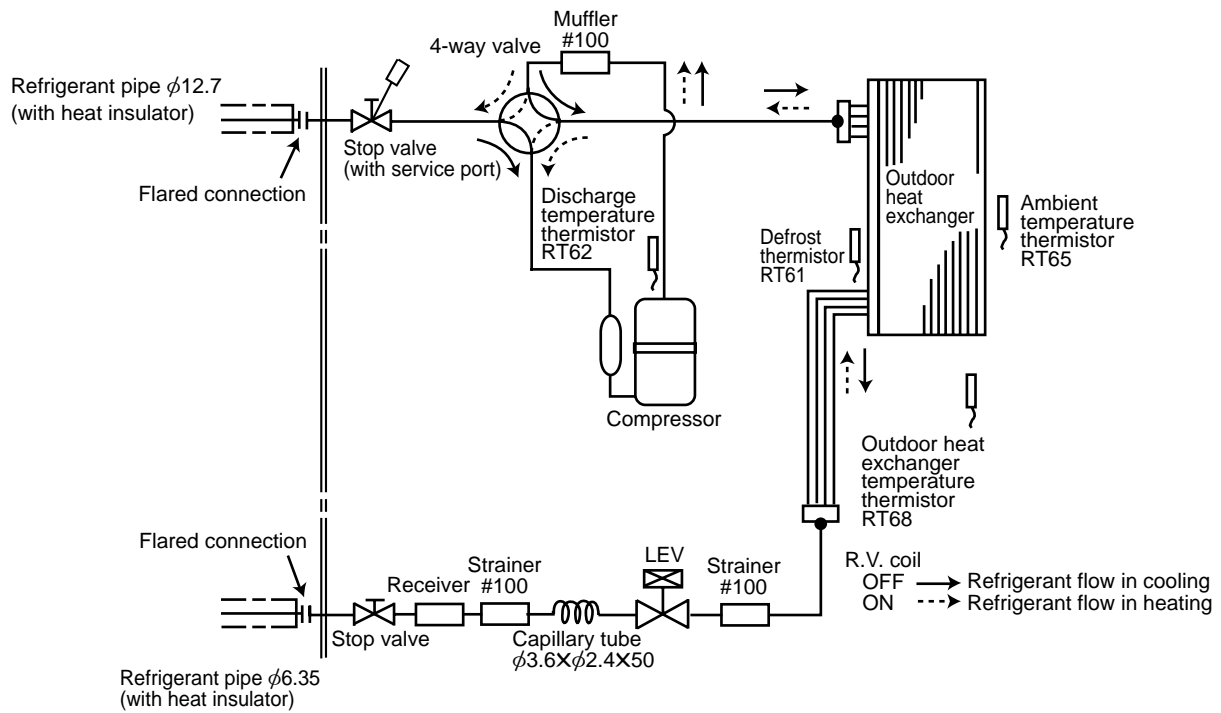
**NOTES:**

1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only (for field wiring).
3. Symbols below indicate:
  - ⊙: Terminal block
  - : Connector

| SYMBOL | NAME                     | SYMBOL  | NAME                             | SYMBOL | NAME                           |
|--------|--------------------------|---------|----------------------------------|--------|--------------------------------|
| CB1-3  | SMOOTHING CAPACITOR      | MC      | COMPRESSOR                       | RT64   | FIN TEMPERATURE THERMISTOR     |
| CT1, 2 | CURRENT TRANSFORMER      | MF      | OUTDOOR FAN MOTOR                | RT65   | AMBIENT TEMPERATURE THERMISTOR |
| CT61   | CURRENT TRANSFORMER      | NF      | NOISE FILTER                     | RT68   | OUTDOOR HEAT EXCHANGER         |
| F64    | FUSE (T2AL 250V)         | NR64    | VARIATOR                         |        | TEMPERATURE THERMISTOR         |
| F801   | FUSE (T3.15AL 250V)      | PC      | POWER FACTOR CONTROLLER          | SSR61  | SOLENOID COIL RELAY            |
| F911   | FUSE (T1AL 250V)         | R64A,B  | RESISTOR                         | T801   | TRANSFORMER                    |
| HC930  | INTELLIGENT POWER MODULE | R937A,B | RESISTOR                         | TB1    | TERMINAL BLOCK                 |
| IPM    | INTELLIGENT POWER MODULE | RS1-4   | RESISTOR                         | TB2    | TERMINAL BLOCK                 |
| L      | REACTOR                  | RT61    | DEFROST THERMISTOR               | X64    | RELAY                          |
| EV     | EXPANSION VALVE COIL     | RT62    | DISCHARGE TEMPERATURE THERMISTOR | 21S4   | R.V. COIL                      |

MUZ-GB50VA-[E1]

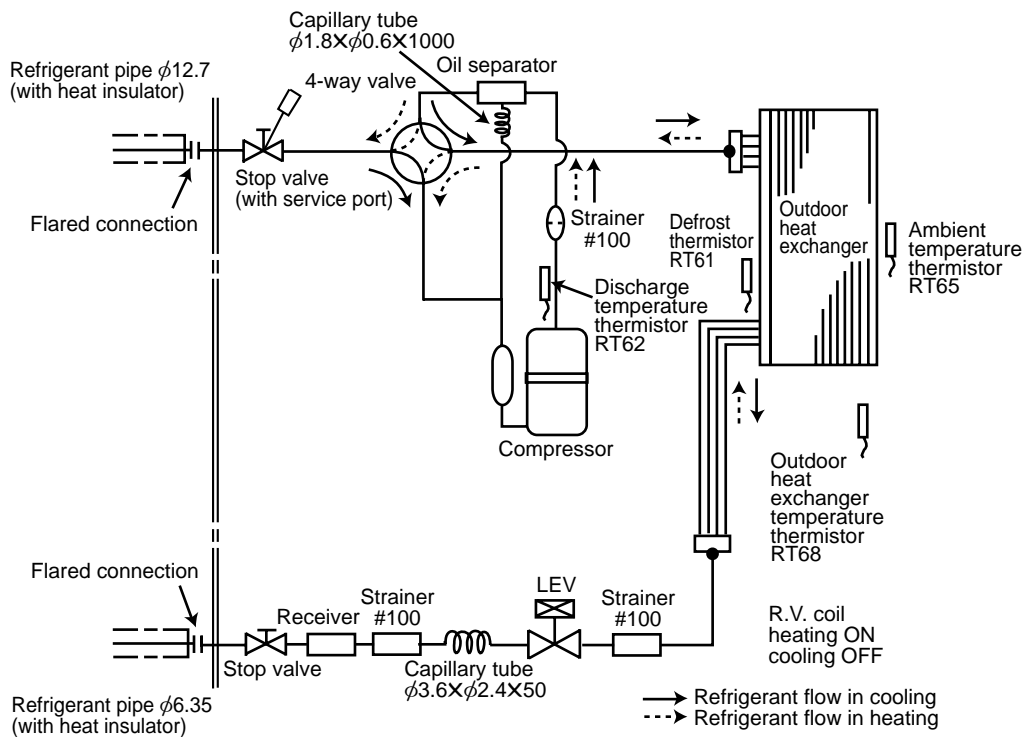
Unit:mm



MUZ-GB50VA-[E1]

MUZ-GB50VA-[E2]

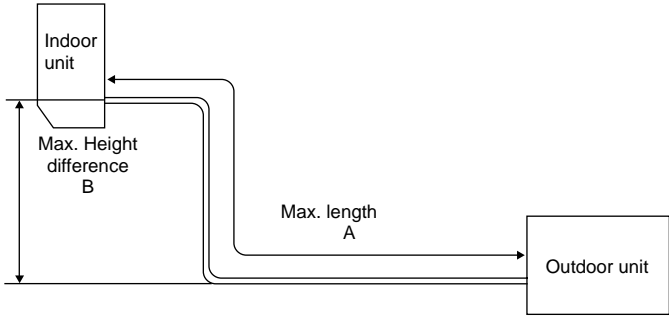
Unit:mm





MAX. REFRIGERANT PIPING LENGTH and MAX. HEIGHT DIFFERENCE

| Model      | Refrigerant piping : m |                        | Piping size O.D : mm |        |
|------------|------------------------|------------------------|----------------------|--------|
|            | Max. length            | Max. Height difference | Gas                  | Liquid |
|            | A                      | B                      |                      |        |
| MUZ-GB50VA | 30                     | 15                     | 12.7                 | 6.35   |



ADDITIONAL REFRIGERANT CHARGE (R410A:g)

| Model      | Outdoor unit precharged | Refrigerant piping length (one way) |     |     |     |     |     |
|------------|-------------------------|-------------------------------------|-----|-----|-----|-----|-----|
|            |                         | 7m                                  | 10m | 15m | 20m | 25m | 30m |
| MUZ-GB50VA | 1,500                   | 0                                   | 60  | 160 | 260 | 360 | 460 |

Calculation :  $Xg=20g/m \times (\text{Refrigerant piping length (m)}-7)$

NOTE : Refrigerant piping exceeding 7m requires additional refrigerant charge according to the calculation.



## MUZ-GB50VA

The standard specifications apply only to the operation of the air conditioner under normal conditions. Since operating conditions vary according to the areas where these units are installed, the following information has been provided to clarify the operating characteristics of the air conditioner under the conditions indicated by the performance curve.

### (1) GUARANTEED VOLTAGE

198 ~ 264V, 50Hz

### (2) AIR FLOW

Air flow should be set at MAX.

### (3) MAIN READINGS

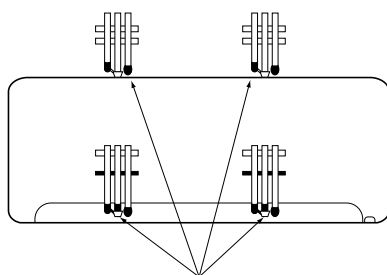
|   |         |           |
|---|---------|-----------|
| (1) Indoor intake air wet-bulb temperature :  | °C [WB] | } Cooling |
| (2) Indoor outlet air wet-bulb temperature :  | °C [WB] |           |
| (3) Outdoor intake air dry-bulb temperature : | °C [DB] |           |
| (4) Total input:                              | W       | } Heating |
| (5) Indoor intake air dry-bulb temperature :  | °C [DB] |           |
| (6) Outdoor intake air wet-bulb temperature : | °C [WB] |           |
| (7) Total input :                             | W       |           |

Indoor air wet/dry-bulb temperature difference on the left side of the following chart shows the difference between the indoor intake air wet/dry-bulb temperature and the indoor outlet air wet/dry-bulb temperature for your reference at service.

### How to measure the indoor air wet-bulb / dry-bulb temperature difference

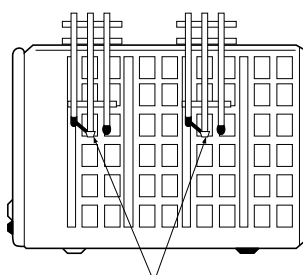
1. Attach at least 2 sets of wet and dry-bulb thermometers to the indoor air intake as shown in the figure, and at least 2 sets of wet and dry-bulb thermometers to the indoor air outlet. The thermometers must be attached to the position where air speed is high.
2. Attach at least 2 sets of wet and dry-bulb thermometers to the outdoor air intake. Cover the thermometers to prevent direct rays of the sun.
3. Check that the air filter is cleaned.
4. Open windows and doors of room.
5. Press the EMERGENCY OPERATION switch once (twice) to start the EMERGENCY COOL (HEAT) MODE.
6. When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
7. 10 minutes later, measure temperature again and check that the temperature does not change.

#### INDOOR UNIT



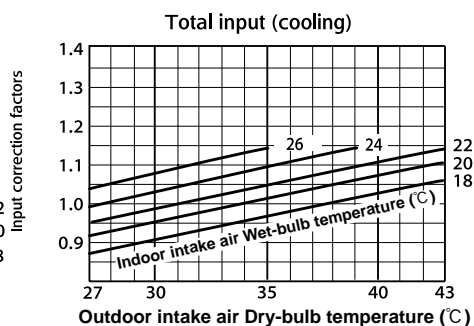
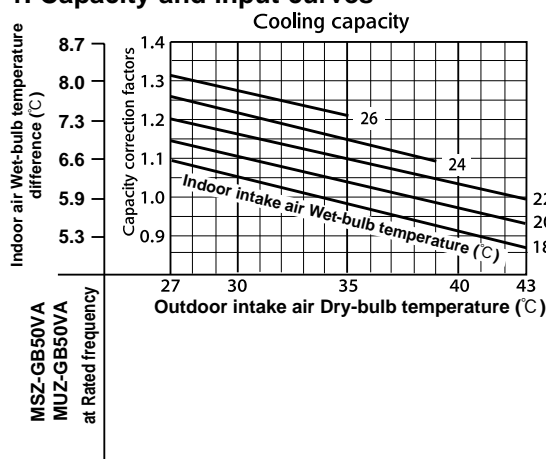
Wet and dry-bulb thermometers  
FRONT VIEW

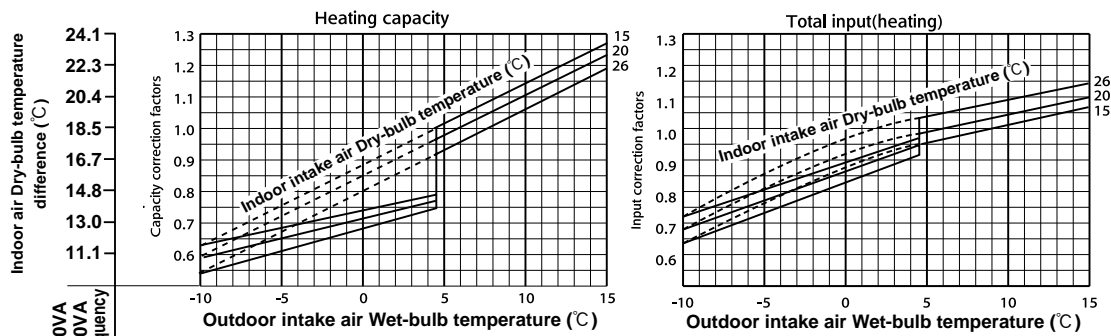
#### OUTDOOR UNIT



Wet and dry-bulb thermometers  
BACK VIEW

### 8-1. Capacity and input curves

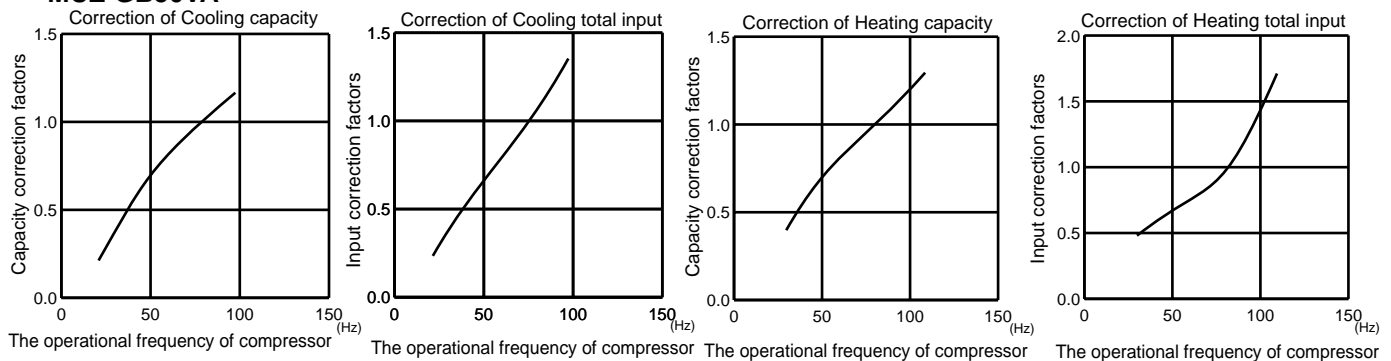




NOTE: The above broken lines are for the heating operation without any frost and defrost operation.

## 8-2. Capacity and input correction by operational frequency of compressor

### MUZ-GB50VA



## 8-3. Test run operation (How to operate fixed-frequency operation)

1. Press EMERGENCY OPERATION switch to COOL or HEAT mode (COOL : Press once, HEAT : Press twice).
2. Test run operation starts and continues to operate for 30 minutes.
3. Compressor operates at rated frequency in COOL mode or 58Hz in HEAT mode.
4. Indoor fan operates at High speed.
5. After 30 minutes, test run operation finishes and EMERGENCY OPERATION starts (Operation frequency of compressor varies).
6. To cancel test run operation (EMERGENCY OPERATION), press EMERGENCY OPERATION switch or any button on remote controller.

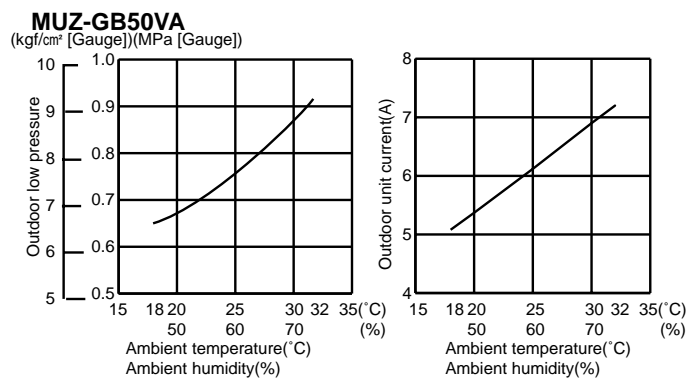
## 8-4. OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT

NOTE: The unit of pressure has been changed to MPa based on the international system of units (SI unit system).  
The conversion factor is: **1(MPa [Gauge] = 10.2 (Kgf/cm<sup>2</sup> [Gauge]))**

### COOL operation

- ① Both indoor and outdoor unit are under the same temperature/humidity condition.
- ② Operation : TEST RUN OPERATION (refer to 8-3.)

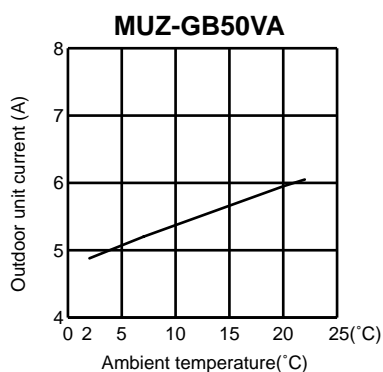
| Dry-bulb temperature(°C) | Relative humidity(%) |
|--------------------------|----------------------|
| 20                       | 50                   |
| 25                       | 60                   |
| 30                       | 70                   |



### HEAT operation

- ① Condition :

|                           | Indoor | Outdoor |   |    |      |
|---------------------------|--------|---------|---|----|------|
| Dry bulb temperature (°C) | 20.0   | 2       | 7 | 15 | 20.0 |
| Wet bulb temperature (°C) | 14.5   | 1       | 6 | 12 | 14.5 |
- ② Operation : TEST RUN OPERATION (refer to 8-3.)



**PERFORMANCE DATA COOL operation at Rated frequency**

**MSZ-GB50VA : MUZ-GB50VA**

CAPACITY:5.0(kW) SHF:0.69 INPUT:1650(W)

|                  |                  | OUTDOOR DB(°C) |      |      |       |      |      |      |       |      |      |      |       |      |      |      |       |
|------------------|------------------|----------------|------|------|-------|------|------|------|-------|------|------|------|-------|------|------|------|-------|
| INDOOR<br>DB(°C) | INDOOR<br>WB(°C) | 21             |      |      |       | 25   |      |      |       | 27   |      |      |       | 30   |      |      |       |
|                  |                  | Q              | SHC  | SHF  | INPUT | Q    | SHC  | SHF  | INPUT | Q    | SHC  | SHF  | INPUT | Q    | SHC  | SHF  | INPUT |
| 21               | 18               | 5.88           | 3.00 | 0.51 | 1320  | 5.63 | 2.87 | 0.51 | 1386  | 5.40 | 2.75 | 0.51 | 1452  | 5.20 | 2.65 | 0.51 | 1518  |
| 21               | 20               | 6.13           | 2.39 | 0.39 | 1386  | 5.88 | 2.29 | 0.39 | 1469  | 5.70 | 2.22 | 0.39 | 1502  | 5.50 | 2.15 | 0.39 | 1568  |
| 22               | 18               | 5.88           | 3.23 | 0.55 | 1320  | 5.63 | 3.09 | 0.55 | 1386  | 5.40 | 2.97 | 0.55 | 1452  | 5.20 | 2.86 | 0.55 | 1518  |
| 22               | 20               | 6.13           | 2.63 | 0.43 | 1386  | 5.88 | 2.53 | 0.43 | 1469  | 5.70 | 2.45 | 0.43 | 1502  | 5.50 | 2.37 | 0.43 | 1568  |
| 22               | 22               | 6.38           | 1.98 | 0.31 | 1436  | 6.15 | 1.91 | 0.31 | 1526  | 6.00 | 1.86 | 0.31 | 1568  | 5.75 | 1.78 | 0.31 | 1634  |
| 23               | 18               | 5.88           | 3.47 | 0.59 | 1320  | 5.63 | 3.32 | 0.59 | 1386  | 5.40 | 3.19 | 0.59 | 1452  | 5.20 | 3.07 | 0.59 | 1518  |
| 23               | 20               | 6.13           | 2.88 | 0.47 | 1386  | 5.88 | 2.76 | 0.47 | 1469  | 5.70 | 2.68 | 0.47 | 1502  | 5.50 | 2.59 | 0.47 | 1568  |
| 23               | 22               | 6.38           | 2.23 | 0.35 | 1436  | 6.15 | 2.15 | 0.35 | 1526  | 6.00 | 2.10 | 0.35 | 1568  | 5.75 | 2.01 | 0.35 | 1634  |
| 24               | 18               | 5.88           | 3.70 | 0.63 | 1320  | 5.63 | 3.54 | 0.63 | 1386  | 5.40 | 3.40 | 0.63 | 1452  | 5.20 | 3.28 | 0.63 | 1518  |
| 24               | 20               | 6.13           | 3.12 | 0.51 | 1386  | 5.88 | 3.00 | 0.51 | 1469  | 5.70 | 2.91 | 0.51 | 1502  | 5.50 | 2.81 | 0.51 | 1568  |
| 24               | 22               | 6.38           | 2.49 | 0.39 | 1436  | 6.15 | 2.40 | 0.39 | 1526  | 6.00 | 2.34 | 0.39 | 1568  | 5.75 | 2.24 | 0.39 | 1634  |
| 24               | 24               | 6.70           | 1.81 | 0.27 | 1502  | 6.45 | 1.74 | 0.27 | 1584  | 6.30 | 1.70 | 0.27 | 1634  | 6.10 | 1.65 | 0.27 | 1716  |
| 25               | 18               | 5.88           | 3.94 | 0.67 | 1320  | 5.63 | 3.77 | 0.67 | 1386  | 5.40 | 3.62 | 0.67 | 1452  | 5.20 | 3.48 | 0.67 | 1518  |
| 25               | 20               | 6.13           | 3.37 | 0.55 | 1386  | 5.88 | 3.23 | 0.55 | 1469  | 5.70 | 3.14 | 0.55 | 1502  | 5.50 | 3.03 | 0.55 | 1568  |
| 25               | 22               | 6.38           | 2.74 | 0.43 | 1436  | 6.15 | 2.64 | 0.43 | 1526  | 6.00 | 2.58 | 0.43 | 1568  | 5.75 | 2.47 | 0.43 | 1634  |
| 25               | 24               | 6.70           | 2.08 | 0.31 | 1502  | 6.45 | 2.00 | 0.31 | 1584  | 6.30 | 1.95 | 0.31 | 1634  | 6.10 | 1.89 | 0.31 | 1716  |
| 26               | 18               | 5.88           | 4.17 | 0.71 | 1320  | 5.63 | 3.99 | 0.71 | 1386  | 5.40 | 3.83 | 0.71 | 1452  | 5.20 | 3.69 | 0.71 | 1518  |
| 26               | 20               | 6.13           | 3.61 | 0.59 | 1386  | 5.88 | 3.47 | 0.59 | 1469  | 5.70 | 3.36 | 0.59 | 1502  | 5.50 | 3.25 | 0.59 | 1568  |
| 26               | 22               | 6.38           | 3.00 | 0.47 | 1436  | 6.15 | 2.89 | 0.47 | 1526  | 6.00 | 2.82 | 0.47 | 1568  | 5.75 | 2.70 | 0.47 | 1634  |
| 26               | 24               | 6.70           | 2.35 | 0.35 | 1502  | 6.45 | 2.26 | 0.35 | 1584  | 6.30 | 2.21 | 0.35 | 1634  | 6.10 | 2.14 | 0.35 | 1716  |
| 26               | 26               | 6.90           | 1.59 | 0.23 | 1584  | 6.70 | 1.54 | 0.23 | 1667  | 6.60 | 1.52 | 0.23 | 1716  | 6.40 | 1.47 | 0.23 | 1766  |
| 27               | 18               | 5.88           | 4.41 | 0.75 | 1320  | 5.63 | 4.22 | 0.75 | 1386  | 5.40 | 4.05 | 0.75 | 1452  | 5.20 | 3.90 | 0.75 | 1518  |
| 27               | 20               | 6.13           | 3.86 | 0.63 | 1386  | 5.88 | 3.70 | 0.63 | 1469  | 5.70 | 3.59 | 0.63 | 1502  | 5.50 | 3.47 | 0.63 | 1568  |
| 27               | 22               | 6.38           | 3.25 | 0.51 | 1436  | 6.15 | 3.14 | 0.51 | 1526  | 6.00 | 3.06 | 0.51 | 1568  | 5.75 | 2.93 | 0.51 | 1634  |
| 27               | 24               | 6.70           | 2.61 | 0.39 | 1502  | 6.45 | 2.52 | 0.39 | 1584  | 6.30 | 2.46 | 0.39 | 1634  | 6.10 | 2.38 | 0.39 | 1716  |
| 27               | 26               | 6.90           | 1.86 | 0.27 | 1584  | 6.70 | 1.81 | 0.27 | 1667  | 6.60 | 1.78 | 0.27 | 1716  | 6.40 | 1.73 | 0.27 | 1766  |
| 28               | 18               | 5.88           | 4.64 | 0.79 | 1320  | 5.63 | 4.44 | 0.79 | 1386  | 5.40 | 4.27 | 0.79 | 1452  | 5.20 | 4.11 | 0.79 | 1518  |
| 28               | 20               | 6.13           | 4.10 | 0.67 | 1386  | 5.88 | 3.94 | 0.67 | 1469  | 5.70 | 3.82 | 0.67 | 1502  | 5.50 | 3.69 | 0.67 | 1568  |
| 28               | 22               | 6.38           | 3.51 | 0.55 | 1436  | 6.15 | 3.38 | 0.55 | 1526  | 6.00 | 3.30 | 0.55 | 1568  | 5.75 | 3.16 | 0.55 | 1634  |
| 28               | 24               | 6.70           | 2.88 | 0.43 | 1502  | 6.45 | 2.77 | 0.43 | 1584  | 6.30 | 2.71 | 0.43 | 1634  | 6.10 | 2.62 | 0.43 | 1716  |
| 28               | 26               | 6.90           | 2.14 | 0.31 | 1584  | 6.70 | 2.08 | 0.31 | 1667  | 6.60 | 2.05 | 0.31 | 1716  | 6.40 | 1.98 | 0.31 | 1766  |
| 29               | 18               | 5.88           | 4.88 | 0.83 | 1320  | 5.63 | 4.67 | 0.83 | 1386  | 5.40 | 4.48 | 0.83 | 1452  | 5.20 | 4.32 | 0.83 | 1518  |
| 29               | 20               | 6.13           | 4.35 | 0.71 | 1386  | 5.88 | 4.17 | 0.71 | 1469  | 5.70 | 4.05 | 0.71 | 1502  | 5.50 | 3.91 | 0.71 | 1568  |
| 29               | 22               | 6.38           | 3.76 | 0.59 | 1436  | 6.15 | 3.63 | 0.59 | 1526  | 6.00 | 3.54 | 0.59 | 1568  | 5.75 | 3.39 | 0.59 | 1634  |
| 29               | 24               | 6.70           | 3.15 | 0.47 | 1502  | 6.45 | 3.03 | 0.47 | 1584  | 6.30 | 2.96 | 0.47 | 1634  | 6.10 | 2.87 | 0.47 | 1716  |
| 29               | 26               | 6.90           | 2.42 | 0.35 | 1584  | 6.70 | 2.35 | 0.35 | 1667  | 6.60 | 2.31 | 0.35 | 1716  | 6.40 | 2.24 | 0.35 | 1766  |
| 30               | 18               | 5.88           | 5.11 | 0.87 | 1320  | 5.63 | 4.89 | 0.87 | 1386  | 5.40 | 4.70 | 0.87 | 1452  | 5.20 | 4.52 | 0.87 | 1518  |
| 30               | 20               | 6.13           | 4.59 | 0.75 | 1386  | 5.88 | 4.41 | 0.75 | 1469  | 5.70 | 4.28 | 0.75 | 1502  | 5.50 | 4.13 | 0.75 | 1568  |
| 30               | 22               | 6.38           | 4.02 | 0.63 | 1436  | 6.15 | 3.87 | 0.63 | 1526  | 6.00 | 3.78 | 0.63 | 1568  | 5.75 | 3.62 | 0.63 | 1634  |
| 30               | 24               | 6.70           | 3.42 | 0.51 | 1502  | 6.45 | 3.29 | 0.51 | 1584  | 6.30 | 3.21 | 0.51 | 1634  | 6.10 | 3.11 | 0.51 | 1716  |
| 30               | 26               | 6.90           | 2.69 | 0.39 | 1584  | 6.70 | 2.61 | 0.39 | 1667  | 6.60 | 2.57 | 0.39 | 1716  | 6.40 | 2.50 | 0.39 | 1766  |
| 31               | 18               | 5.88           | 5.35 | 0.91 | 1320  | 5.63 | 5.12 | 0.91 | 1386  | 5.40 | 4.91 | 0.91 | 1452  | 5.20 | 4.73 | 0.91 | 1518  |
| 31               | 20               | 6.13           | 4.84 | 0.79 | 1386  | 5.88 | 4.64 | 0.79 | 1469  | 5.70 | 4.50 | 0.79 | 1502  | 5.50 | 4.35 | 0.79 | 1568  |
| 31               | 22               | 6.38           | 4.27 | 0.67 | 1436  | 6.15 | 4.12 | 0.67 | 1526  | 6.00 | 4.02 | 0.67 | 1568  | 5.75 | 3.85 | 0.67 | 1634  |
| 31               | 24               | 6.70           | 3.69 | 0.55 | 1502  | 6.45 | 3.55 | 0.55 | 1584  | 6.30 | 3.47 | 0.55 | 1634  | 6.10 | 3.36 | 0.55 | 1716  |
| 31               | 26               | 6.90           | 2.97 | 0.43 | 1584  | 6.70 | 2.88 | 0.43 | 1667  | 6.60 | 2.84 | 0.43 | 1716  | 6.40 | 2.75 | 0.43 | 1766  |
| 32               | 18               | 5.88           | 5.58 | 0.95 | 1320  | 5.63 | 5.34 | 0.95 | 1386  | 5.40 | 5.13 | 0.95 | 1452  | 5.20 | 4.94 | 0.95 | 1518  |
| 32               | 20               | 6.13           | 5.08 | 0.83 | 1386  | 5.88 | 4.88 | 0.83 | 1469  | 5.70 | 4.73 | 0.83 | 1502  | 5.50 | 4.57 | 0.83 | 1568  |
| 32               | 22               | 6.38           | 4.53 | 0.71 | 1436  | 6.15 | 4.37 | 0.71 | 1526  | 6.00 | 4.26 | 0.71 | 1568  | 5.75 | 4.08 | 0.71 | 1634  |
| 32               | 24               | 6.70           | 3.95 | 0.59 | 1502  | 6.45 | 3.81 | 0.59 | 1584  | 6.30 | 3.72 | 0.59 | 1634  | 6.10 | 3.60 | 0.59 | 1716  |
| 32               | 26               | 6.90           | 3.24 | 0.47 | 1584  | 6.70 | 3.15 | 0.47 | 1667  | 6.60 | 3.10 | 0.47 | 1716  | 6.40 | 3.01 | 0.47 | 1766  |

**NOTE** Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature  
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

**PERFORMANCE DATA COOL operation at Rated frequency**

**MSZ-GB50VA : MUZ-GB50VA**

CAPACITY:5.0(kW) SHF:0.69 INPUT:1650(W)

| INDOOR<br>DB(°C) | INDOOR<br>WB(°C) | OUTDOOR DB(°C) |      |      |       |      |      |      |       |      |      |      |       |
|------------------|------------------|----------------|------|------|-------|------|------|------|-------|------|------|------|-------|
|                  |                  | 35             |      |      |       | 40   |      |      |       | 43   |      |      |       |
|                  |                  | Q              | SHC  | SHF  | INPUT | Q    | SHC  | SHF  | INPUT | Q    | SHC  | SHF  | INPUT |
| 21               | 18               | 4.90           | 2.50 | 0.51 | 1617  | 4.50 | 2.30 | 0.51 | 1716  | 4.30 | 2.19 | 0.51 | 1749  |
| 21               | 20               | 5.15           | 2.01 | 0.39 | 1683  | 4.80 | 1.87 | 0.39 | 1766  | 4.60 | 1.79 | 0.39 | 1815  |
| 22               | 18               | 4.90           | 2.70 | 0.55 | 1617  | 4.50 | 2.48 | 0.55 | 1716  | 4.30 | 2.37 | 0.55 | 1749  |
| 22               | 20               | 5.15           | 2.21 | 0.43 | 1683  | 4.80 | 2.06 | 0.43 | 1766  | 4.60 | 1.98 | 0.43 | 1815  |
| 22               | 22               | 5.45           | 1.69 | 0.31 | 1749  | 5.10 | 1.58 | 0.31 | 1848  | 4.90 | 1.52 | 0.31 | 1881  |
| 23               | 18               | 4.90           | 2.89 | 0.59 | 1617  | 4.50 | 2.66 | 0.59 | 1716  | 4.30 | 2.54 | 0.59 | 1749  |
| 23               | 20               | 5.15           | 2.42 | 0.47 | 1683  | 4.80 | 2.26 | 0.47 | 1766  | 4.60 | 2.16 | 0.47 | 1815  |
| 23               | 22               | 5.45           | 1.91 | 0.35 | 1749  | 5.10 | 1.79 | 0.35 | 1848  | 4.90 | 1.72 | 0.35 | 1881  |
| 24               | 18               | 4.90           | 3.09 | 0.63 | 1617  | 4.50 | 2.84 | 0.63 | 1716  | 4.30 | 2.71 | 0.63 | 1749  |
| 24               | 20               | 5.15           | 2.63 | 0.51 | 1683  | 4.80 | 2.45 | 0.51 | 1766  | 4.60 | 2.35 | 0.51 | 1815  |
| 24               | 22               | 5.45           | 2.13 | 0.39 | 1749  | 5.10 | 1.99 | 0.39 | 1848  | 4.90 | 1.91 | 0.39 | 1881  |
| 24               | 24               | 5.75           | 1.55 | 0.27 | 1815  | 5.40 | 1.46 | 0.27 | 1898  | 5.25 | 1.42 | 0.27 | 1947  |
| 25               | 18               | 4.90           | 3.28 | 0.67 | 1617  | 4.50 | 3.02 | 0.67 | 1716  | 4.30 | 2.88 | 0.67 | 1749  |
| 25               | 20               | 5.15           | 2.83 | 0.55 | 1683  | 4.80 | 2.64 | 0.55 | 1766  | 4.60 | 2.53 | 0.55 | 1815  |
| 25               | 22               | 5.45           | 2.34 | 0.43 | 1749  | 5.10 | 2.19 | 0.43 | 1848  | 4.90 | 2.11 | 0.43 | 1881  |
| 25               | 24               | 5.75           | 1.78 | 0.31 | 1815  | 5.40 | 1.67 | 0.31 | 1898  | 5.25 | 1.31 | 0.25 | 1947  |
| 26               | 18               | 4.90           | 3.48 | 0.71 | 1617  | 4.50 | 3.20 | 0.71 | 1716  | 4.30 | 3.05 | 0.71 | 1749  |
| 26               | 20               | 5.15           | 3.04 | 0.59 | 1683  | 4.80 | 2.83 | 0.59 | 1766  | 4.60 | 2.71 | 0.59 | 1815  |
| 26               | 22               | 5.45           | 2.56 | 0.47 | 1749  | 5.10 | 2.40 | 0.47 | 1848  | 4.90 | 2.30 | 0.47 | 1881  |
| 26               | 24               | 5.75           | 2.01 | 0.35 | 1815  | 5.40 | 1.89 | 0.35 | 1898  | 5.25 | 1.21 | 0.23 | 1947  |
| 26               | 26               | 6.05           | 1.39 | 0.23 | 1881  | 5.70 | 1.31 | 0.23 | 1964  | 5.50 | 1.27 | 0.23 | 2013  |
| 27               | 18               | 4.90           | 3.68 | 0.75 | 1617  | 4.50 | 3.38 | 0.75 | 1716  | 4.30 | 3.23 | 0.75 | 1749  |
| 27               | 20               | 5.15           | 3.24 | 0.63 | 1683  | 4.80 | 3.02 | 0.63 | 1766  | 4.60 | 2.90 | 0.63 | 1815  |
| 27               | 22               | 5.45           | 2.78 | 0.51 | 1749  | 5.10 | 2.60 | 0.51 | 1848  | 4.90 | 2.50 | 0.51 | 1881  |
| 27               | 24               | 5.75           | 2.24 | 0.39 | 1815  | 5.40 | 2.11 | 0.39 | 1898  | 5.25 | 1.10 | 0.21 | 1947  |
| 27               | 26               | 6.05           | 1.63 | 0.27 | 1881  | 5.70 | 1.54 | 0.27 | 1964  | 5.50 | 1.49 | 0.27 | 2013  |
| 28               | 18               | 4.90           | 3.87 | 0.79 | 1617  | 4.50 | 3.56 | 0.79 | 1716  | 4.30 | 3.40 | 0.79 | 1749  |
| 28               | 20               | 5.15           | 3.45 | 0.67 | 1683  | 4.80 | 3.22 | 0.67 | 1766  | 4.60 | 3.08 | 0.67 | 1815  |
| 28               | 22               | 5.45           | 3.00 | 0.55 | 1749  | 5.10 | 2.81 | 0.55 | 1848  | 4.90 | 2.70 | 0.55 | 1881  |
| 28               | 24               | 5.75           | 2.47 | 0.43 | 1815  | 5.40 | 2.32 | 0.43 | 1898  | 5.25 | 1.00 | 0.19 | 1947  |
| 28               | 26               | 6.05           | 1.88 | 0.31 | 1881  | 5.70 | 1.77 | 0.31 | 1964  | 5.50 | 1.71 | 0.31 | 2013  |
| 29               | 18               | 4.90           | 4.07 | 0.83 | 1617  | 4.50 | 3.74 | 0.83 | 1716  | 4.30 | 3.57 | 0.83 | 1749  |
| 29               | 20               | 5.15           | 3.66 | 0.71 | 1683  | 4.80 | 3.41 | 0.71 | 1766  | 4.60 | 3.27 | 0.71 | 1815  |
| 29               | 22               | 5.45           | 3.22 | 0.59 | 1749  | 5.10 | 3.01 | 0.59 | 1848  | 4.90 | 2.89 | 0.59 | 1881  |
| 29               | 24               | 5.75           | 2.70 | 0.47 | 1815  | 5.40 | 2.54 | 0.47 | 1898  | 5.25 | 0.89 | 0.17 | 1947  |
| 29               | 26               | 6.05           | 2.12 | 0.35 | 1881  | 5.70 | 2.00 | 0.35 | 1964  | 5.50 | 1.93 | 0.35 | 2013  |
| 30               | 18               | 4.90           | 4.26 | 0.87 | 1617  | 4.50 | 3.92 | 0.87 | 1716  | 4.30 | 3.74 | 0.87 | 1749  |
| 30               | 20               | 5.15           | 3.86 | 0.75 | 1683  | 4.80 | 3.60 | 0.75 | 1766  | 4.60 | 3.45 | 0.75 | 1815  |
| 30               | 22               | 5.45           | 3.43 | 0.63 | 1749  | 5.10 | 3.21 | 0.63 | 1848  | 4.90 | 3.09 | 0.63 | 1881  |
| 30               | 24               | 5.75           | 2.93 | 0.51 | 1815  | 5.40 | 2.75 | 0.51 | 1898  | 5.25 | 0.79 | 0.15 | 1947  |
| 30               | 26               | 6.05           | 2.36 | 0.39 | 1881  | 5.70 | 2.22 | 0.39 | 1964  | 5.50 | 2.15 | 0.39 | 2013  |
| 31               | 18               | 4.90           | 4.46 | 0.91 | 1617  | 4.50 | 4.10 | 0.91 | 1716  | 4.30 | 3.91 | 0.91 | 1749  |
| 31               | 20               | 5.15           | 4.07 | 0.79 | 1683  | 4.80 | 3.79 | 0.79 | 1766  | 4.60 | 3.63 | 0.79 | 1815  |
| 31               | 22               | 5.45           | 3.65 | 0.67 | 1749  | 5.10 | 3.42 | 0.67 | 1848  | 4.90 | 3.28 | 0.67 | 1881  |
| 31               | 24               | 5.75           | 3.16 | 0.55 | 1815  | 5.40 | 2.97 | 0.55 | 1898  | 5.25 | 0.68 | 0.13 | 1947  |
| 31               | 26               | 6.05           | 2.60 | 0.43 | 1881  | 5.70 | 2.45 | 0.43 | 1964  | 5.50 | 2.37 | 0.43 | 2013  |
| 32               | 18               | 4.90           | 4.66 | 0.95 | 1617  | 4.50 | 4.28 | 0.95 | 1716  | 4.30 | 4.09 | 0.95 | 1749  |
| 32               | 20               | 5.15           | 4.27 | 0.83 | 1683  | 4.80 | 3.98 | 0.83 | 1766  | 4.60 | 3.82 | 0.83 | 1815  |
| 32               | 22               | 5.45           | 3.87 | 0.71 | 1749  | 5.10 | 3.62 | 0.71 | 1848  | 4.90 | 3.48 | 0.71 | 1881  |
| 32               | 24               | 5.75           | 3.39 | 0.59 | 1815  | 5.40 | 3.19 | 0.59 | 1898  | 5.25 | 0.58 | 0.11 | 1947  |
| 32               | 26               | 6.05           | 2.84 | 0.47 | 1881  | 5.70 | 2.68 | 0.47 | 1964  | 5.50 | 2.59 | 0.47 | 2013  |

**NOTE** Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature  
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

## PERFORMANCE DATA HEAT operation at Rated frequency

### MSZ-GB50VA : MUZ-GB50VA

CAPACITY:5.8(kW) INPUT:1700(W)

| INDOOR<br>DB(°C) | OUTDOOR WB(°C) |       |      |       |      |       |      |       |      |       |      |       |      |       |
|------------------|----------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
|                  | -10            |       | -5   |       | 0    |       | 5    |       | 10   |       | 15   |       | 20   |       |
|                  | Q              | INPUT | Q    | INPUT | Q    | INPUT | Q    | INPUT | Q    | INPUT | Q    | INPUT | Q    | INPUT |
| 15               | 3.65           | 1105  | 4.41 | 1326  | 5.16 | 1496  | 5.92 | 1615  | 6.67 | 1717  | 7.37 | 1768  | 8.12 | 1802  |
| 21               | 3.48           | 1190  | 4.18 | 1411  | 4.93 | 1564  | 5.63 | 1683  | 6.38 | 1768  | 7.08 | 1819  | 7.80 | 1887  |
| 26               | 3.13           | 1275  | 3.89 | 1496  | 4.58 | 1649  | 5.34 | 1768  | 6.09 | 1853  | 6.79 | 1904  | 7.54 | 1955  |

**NOTE** Q : Total capacity (kW) INPUT : Total power input (W) DB : Dry-bulb temperature WB : Wet-bulb temperature

## 9 ACTUATOR CONTROL

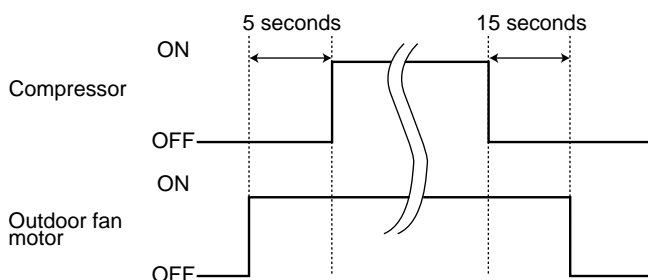
### MUZ-GB50VA

#### 9-1. Outdoor fan motor control

The fan motor turns ON/OFF, interlocking with the compressor.

[ON] The fan motor turns ON 5 seconds before the compressor starts up.

[OFF] The fan motor turns OFF 15 seconds after the compressor has stopped running.



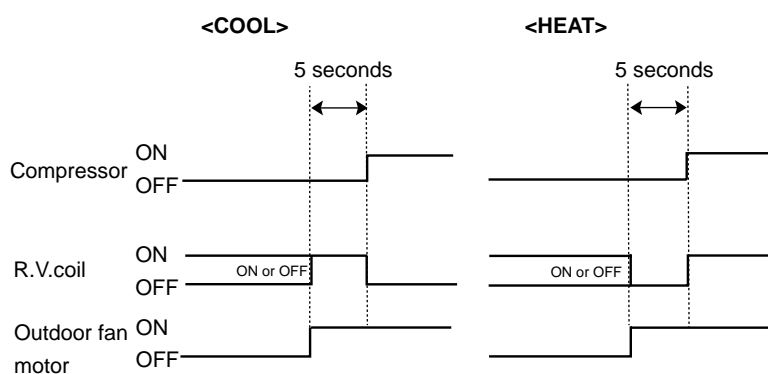
#### 9-2. R.V. coil control

Heating ..... ON

Cooling ..... OFF

Dry ..... OFF

**NOTE:** The 4-way valve reverses for 5 seconds right before start-up of the compressor.



### 9-3. Relation between main sensor and actuator

| Sensor                             | Purpose               | Actuator   |     |                   |           |
|------------------------------------|-----------------------|------------|-----|-------------------|-----------|
|                                    |                       | Compressor | LEV | Outdoor fan motor | R.V. coil |
| Discharge temperature thermistor   | Protection            | ○          | ○   |                   |           |
| Indoor pipe temperature thermistor | Defrosting Protection | ○          | ○   | ○                 |           |
| Defrost thermistor                 | Defrosting            | ○          | ○   | ○                 | ○         |
| Fin temperature thermistor         | Protection            | ○          |     | ○                 |           |
| Outdoor heat exchanger temperature | Protection            | ○          | ○   | ○                 |           |
| Ambient temperature thermistor     | Protection            | ○          | ○   | ○                 |           |

## 10 TROUBLESHOOTING

### MUZ-GB50VA

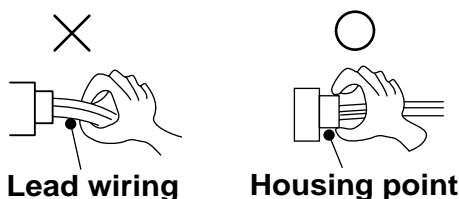
#### 10-1. Cautions on troubleshooting

##### 1. Before troubleshooting, check the following

- 1) Check the power supply voltage.
- 2) Check the indoor/outdoor connecting wire for miswiring.

##### 2. Take care of the following during servicing

- 1) Before servicing the air conditioner, be sure to turn OFF the main unit first with the remote controller, then after confirming the horizontal vane is closed, turn off the breaker and / or disconnect the power plug.
- 2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
- 3) When removing the electrical parts, be careful to the residual voltage of smoothing capacitor.
- 4) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
- 5) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.



##### 3. Troubleshooting procedure

- 1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
- 2) Before servicing check that the connector and terminal are connected properly.
- 3) When the electronic control P.C. board seems to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
- 4) When troubleshooting, refer to 10-2., 10-3. and 10-4.

## 10-2. Failure mode recall function

Outline of the function

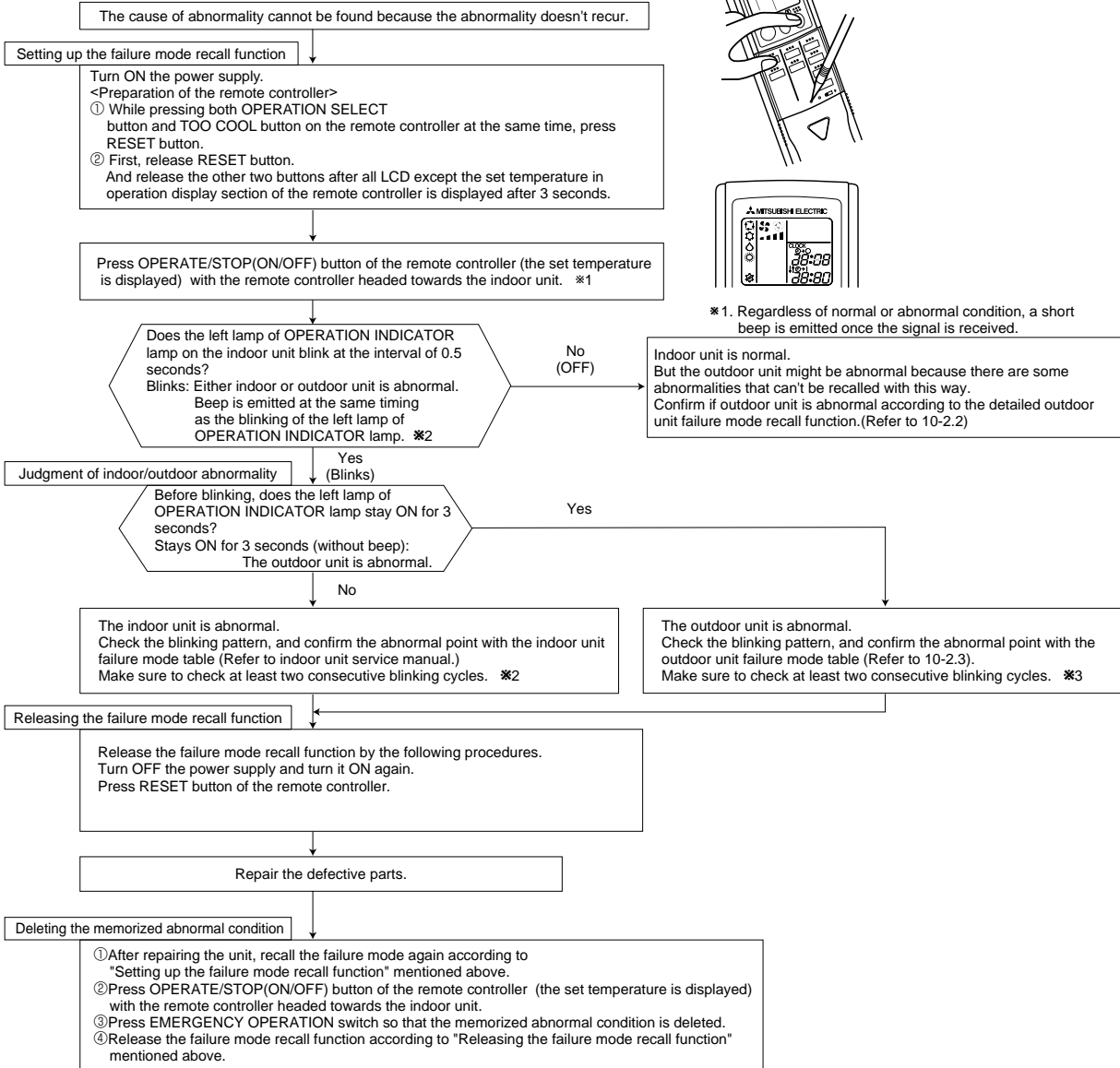
This air conditioner can memorize the abnormal condition which has occurred once.

Even though LED indication listed on the troubleshooting check table (10-4.) disappears, the memorized failure details can be recalled.

This mode is very useful when the unit needs to be repaired for the abnormality which doesn't recur.

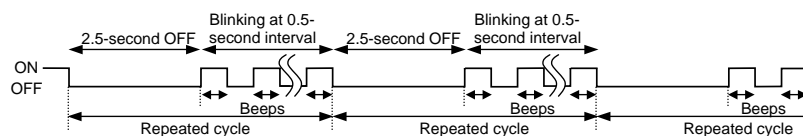
### 1. Flow chart of failure mode recall function for the indoor/outdoor unit

Operational procedure

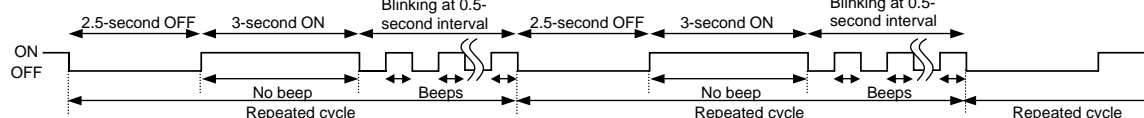


Note1. Make sure to release the failure mode recall function once it's set up, otherwise the unit cannot operate properly.  
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2. Blinking pattern when the indoor unit is abnormal:



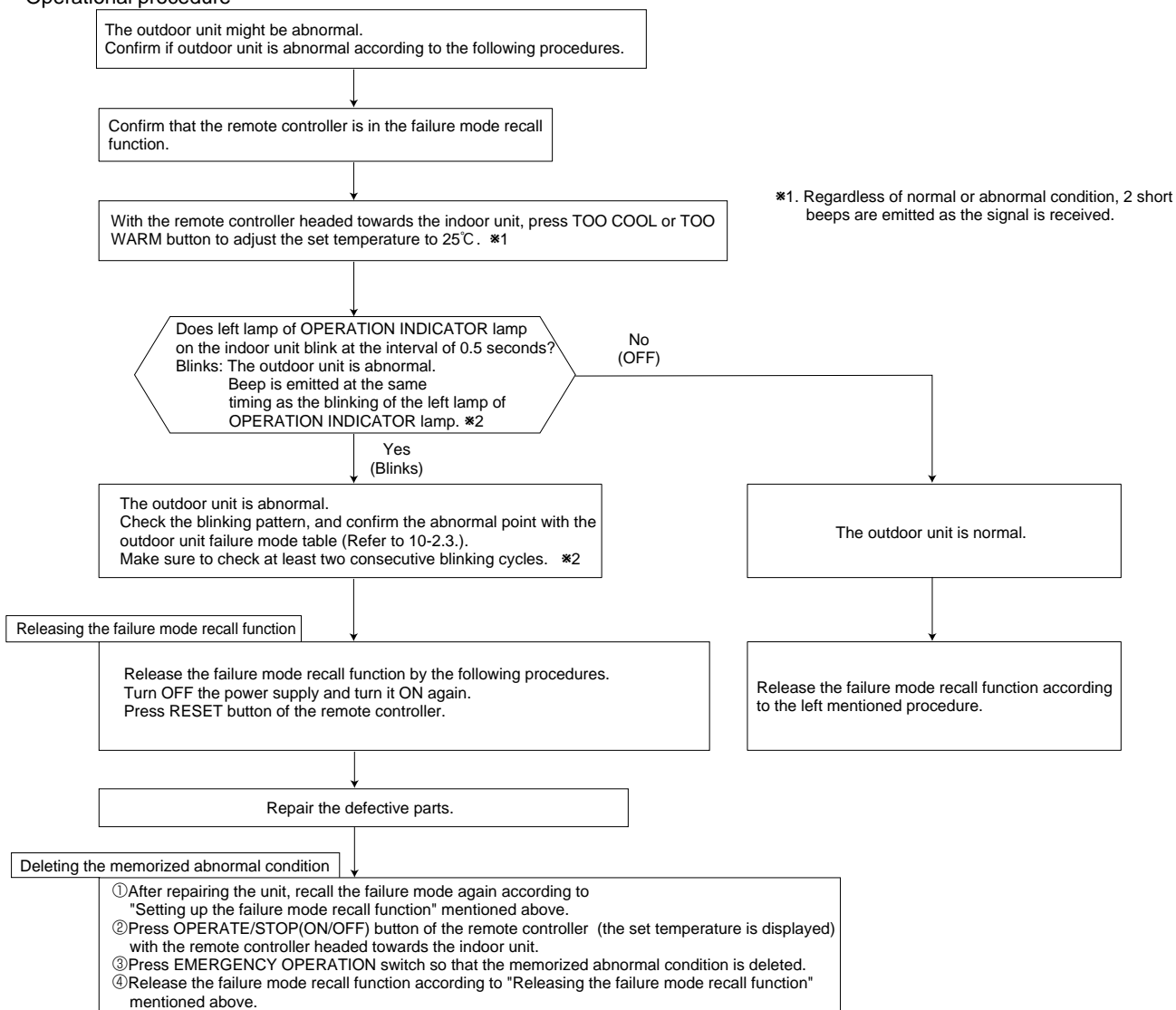
※3. Blinking pattern when the outdoor unit is abnormal:





## 2. Flow chart of the detailed outdoor unit failure mode recall function

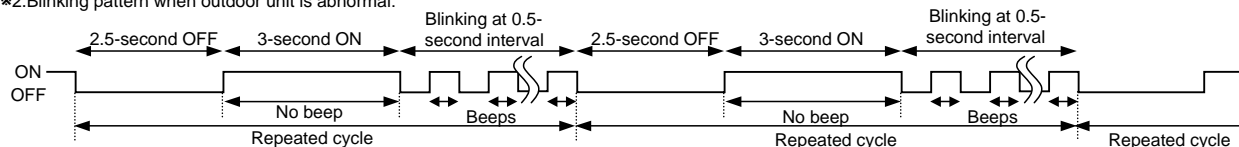
### Operational procedure



Note1. Make sure to release the failure mode recall function once it's set up, otherwise the unit cannot operate properly.

2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

\*2.Blinking pattern when outdoor unit is abnormal:



### 3. Outdoor unit failure mode table

#### MUZ-GB50VA

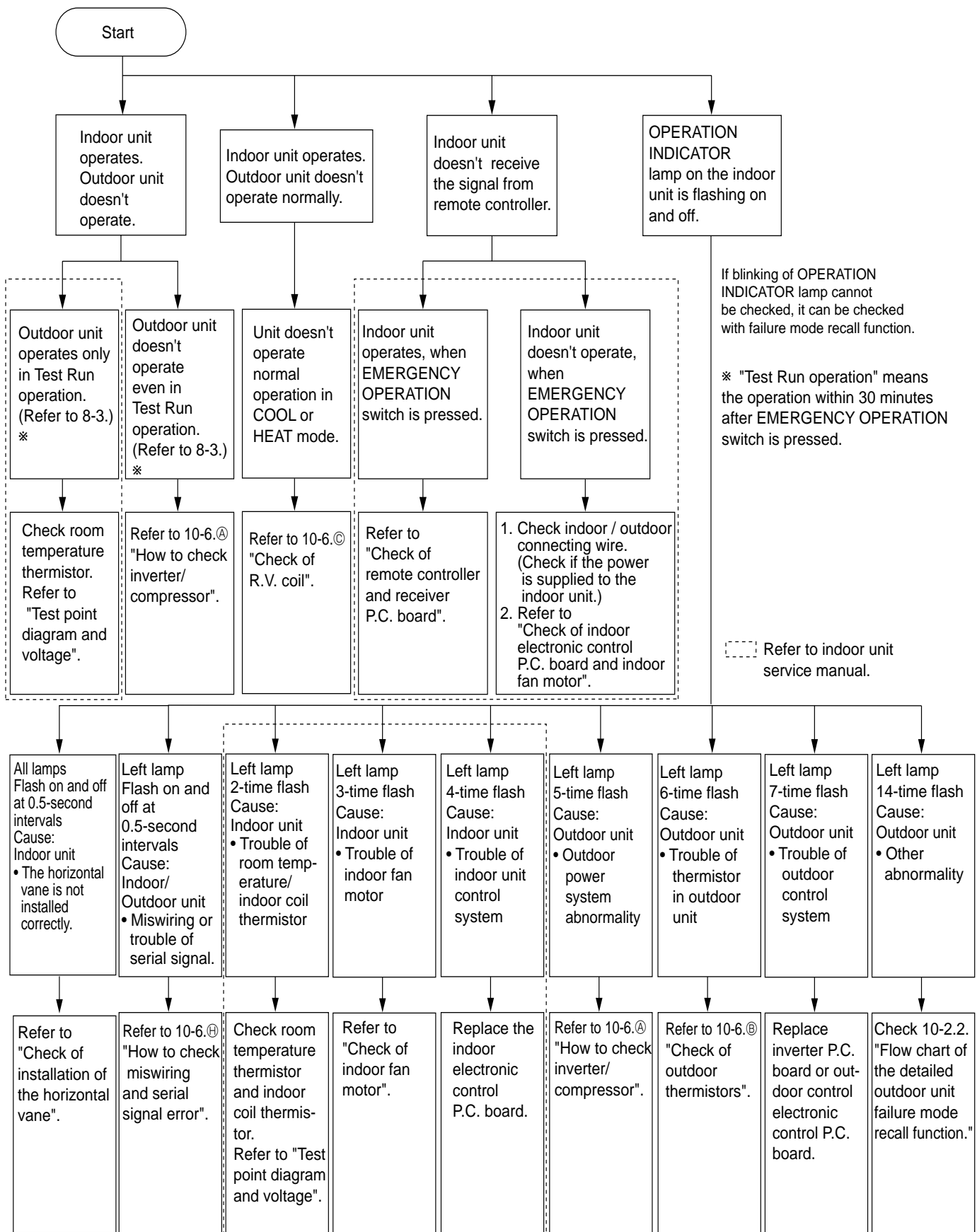
| The left lamp of OPERATION INDICATOR lamp (Indoor unit) | Abnormal point (Failure mode / protection)    | LED indication (Outdoor P.C. board) |          | Condition   | Correspondence  | Indoor/outdoor unit failure mode recall function |
|---|---|-------------------------------------|----------|---|---|--|
|   |   | LED 1                               | LED 2    |   |   |  |
| OFF   | None (Normal)                                 | —                                   | —        | —   | —   | —  |
| 2-time flash  | Outdoor power system                          | Lighting                            | Lighting | Overcurrent protection stop is continuously performed 3 times within 1 minute after the compressor gets started, or converter protection stop or bus-bar voltage protection stop is continuously performed 3 times within 3 minutes after start-up. | <ul style="list-style-type: none"> <li>• Check the connection of the compressor connecting wire.</li> <li>• Refer to 10-6.④ "How to check inverter / compressor".</li> <li>• Check the stop valve.</li> </ul> | ○  |
| 3-time flash  | Discharge temperature thermistor              | Lighting                            | Once     | Thermistor shorts or opens during compressor running.   | <ul style="list-style-type: none"> <li>• Refer to 10-6.⑥ "Check of outdoor thermistors".</li> </ul>   | ○  |
|   | Defrost thermistor                            | Lighting                            | Once     |   |   |  |
|   | Ambient temperature thermistor                | Lighting                            | Twice    |   |   |  |
|   | Fin temperature thermistor                    | Lighting                            | 3 times  |   |   |  |
|   | P.C. board temperature thermistor             | Lighting                            | 4 times  |   |   |  |
|   | Outdoor heat exchanger temperature thermistor | Lighting                            | 9 times  |   | <ul style="list-style-type: none"> <li>• Replace the outdoor electronic control P.C. board.</li> <li>• Refer to 10-6.⑥ "Check of outdoor thermistors".</li> </ul>   |  |
| 4-time flash  | Overcurrent                                   | Once                                | Goes out | 28A current flows into intelligent power module.  | <ul style="list-style-type: none"> <li>• Reconnect compressor connector.</li> <li>• Refer to 10-6.④ "How to check inverter/ compressor."</li> <li>• Check the stop valve.</li> </ul>                          | —  |
| 5-time flash  | Discharge temperature                         | Lighting                            | Lighting | Discharge temperature exceeds 116°C during operation. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later.   | <ul style="list-style-type: none"> <li>• Check refrigerant circuit and refrigerant amount.</li> <li>• Refer to 10-6.⑥ "Check of LEV".</li> </ul>  | —  |
| 6-time flash  | High pressure                                 | Lighting                            | Lighting | The outdoor heat exchanger temperature exceeds 70°C during cooling or the indoor gas pipe temperature exceeds 70°C during heating.  | <ul style="list-style-type: none"> <li>• Check refrigerant circuit and refrigerant amount.</li> <li>• Check the stop valve.</li> </ul>  | —  |
| 7-time flash  | Fin temperature                               | 3 times                             | Goes out | The fin temperature exceeds 87°C during operation.  | <ul style="list-style-type: none"> <li>• Check around outdoor unit.</li> <li>• Check outdoor unit air passage.</li> <li>• Refer to 10-6.⑥ "Check of outdoor fan motor".</li> </ul>                            | —  |
|   | P.C. board temperature                        | 4 times                             | Goes out | The P.C. board temperature exceeds 70°C during operation.   |   |  |
| 8-time flash  | Outdoor fan motor                             | Lighting                            | Lighting | Failure occurs continuously 3 times within 30 seconds after the fan gets started.   | <ul style="list-style-type: none"> <li>• Refer to 10-6.⑥ "Check of outdoor fan motor".</li> </ul>   | —  |
| 9-time flash  | Nonvolatile memory data                       | Lighting                            | 5 times  | Nonvolatile memory data cannot be read properly.  | <ul style="list-style-type: none"> <li>• Replace the outdoor electronic control P.C. board.</li> </ul>  | ○  |
| 10-time flash   | Discharge temperature                         | Lighting                            | Lighting | The frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 39°C for more than 20 minutes.   | <ul style="list-style-type: none"> <li>• Check refrigerant circuit and refrigerant amount.</li> <li>• Refer to 10-6.⑥ "Check of LEV".</li> </ul>  | —  |

**NOTE :** Blinking patterns of this mode differ from the ones of Troubleshooting check table (10-4.).

| The left lamp of<br>OPERATION INDICATOR<br>lamp (Indoor unit) | Abnormal point<br>(Failure mode / protection)   | LED indication<br>(Outdoor P.C. board) |             | Condition  | Correspondence  | Indoor/outdoor<br>unit failure mode<br>recall function |
|---|---|--|-------------|--|---|--|
|   |   | LED 1                                  | LED 2       |  |   |  |
| 11-time flash   | Communication error<br>between P.C. boards  | Lighting                               | 6 times     | Communication error occurs between<br>the electronic control P.C. board and<br>power board for more than 10 seconds. | • Check the connecting<br>wire between outdoor<br>electronic control<br>P.C. board and power<br>board.                | —  |
|   |   |  |             | The communication between boards<br>protection stop is continuously<br>performed twice.                              |   | ○  |
|   | Current sensor  | Lighting                               | 7 times     | A short or open circuit is detected<br>in the current sensor during<br>compressor operating.                         | • Replace the power<br>board.   | —  |
|   |   |  |             | Current sensor protection stop is<br>continuously performed twice.   |   | ○  |
|   | Zero cross detecting circuit  | 5 times                                | Goes<br>out | Zero cross signal cannot be detected<br>while the compressor is operating.   | • Check the connecting<br>wire among electronic<br>control P.C. board,<br>noise filter P.C. board<br>and power board. | —  |
|   |   |  |             | The protection stop of the zero<br>cross detecting circuit is continuously<br>performed 10 times.                    |   | ○  |
|   | Converter   | 5 times                                | Goes<br>out | A failure is detected in the operation<br>of the converter during operation.   | • Replace the power<br>board.   | —  |
|   | Bus-bar voltage<br>(1)  | 5 times                                | Goes<br>out | The bus-bar voltage exceeds 400V<br>or falls to 200V or below during<br>compressor operating.                        |   |  |
|   | Bus-bar voltage<br>(2)<br>*Even if this protection stop is<br>performed continuously 3 times,<br>it does not mean the abnormality<br>in outdoor power system. | 6 times                                | Goes<br>out | The bus-bar voltage exceeds 400V<br>or falls to 50V or below during<br>compressor operating.                         |   |  |

**NOTE** : Blinking patterns of this mode differ from the ones of Troubleshooting check table (10-4.).

### 10-3. Instruction of troubleshooting



## 10-4. Troubleshooting check table

### MUZ-GB50VA

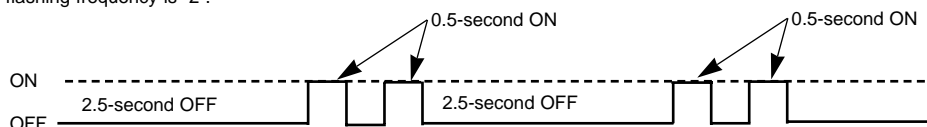
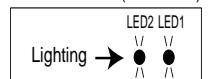
| No. | Symptom  | Indication |              | Abnormal point / Condition  | Condition  | Correspondence  |
|-----|--|------------|--------------|---|--|---|
|     |  | LED1(Red)  | LED2(Yellow) |   |  |   |
| 1   | Outdoor unit does not operate.                                 | Lightning  | Twice        | Outdoor power system  | Overcurrent protection stop is continuously performed 3 times within 1 minute after the compressor gets started, or when converter protection stop or bus-bar voltage protection stop is continuously performed 3 times within 3 minutes after start-up.   | <ul style="list-style-type: none"> <li>Check the connection of the compressor connecting wire.</li> <li>Refer to 10-6.④ "How to check inverter/compressor".</li> <li>Check the stop valve.</li> </ul>                       |
| 2   |  | Lightning  | 3 times      | Discharge temperature thermistor  | A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 10 minutes of compressor start-up.  | <ul style="list-style-type: none"> <li>Refer to 10-6.⑥ "Check of outdoor thermistors".</li> </ul>   |
| 3   |  | Lightning  | 4 times      | Fin temperature thermistor<br>P.C board temperature thermistor  | A short or open circuit is detected in the thermistor during operation.  | <ul style="list-style-type: none"> <li>Refer to 10-6.⑥ "Check of outdoor thermistors".</li> <li>Replace the outdoor electronic control P.C. board.</li> </ul>   |
| 4   |  | Lightning  | 5 times      | Ambient temperature thermistor<br>Outdoor heat exchanger temperature thermistor<br>Defrost thermistor | A short or open circuit is detected in the thermistor during operation.<br>A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 5 minutes (in cooling) and 10 minutes (in heating) of compressor start-up.<br>A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 5 minutes of compressor start-up. | <ul style="list-style-type: none"> <li>Refer to 10-6.⑥ "Check of outdoor thermistors".</li> </ul>   |
| 5   |  | Lightning  | 6 times      | Serial signal   | The communication fails between the indoor and outdoor unit for 3 minutes.   | <ul style="list-style-type: none"> <li>Refer to 10-6.④ "How to check miswiring and serial signal error".</li> </ul>   |
| 6   |  | Lightning  | 7 times      | Nonvolatile memory data   | The nonvolatile memory data cannot be read properly.   | <ul style="list-style-type: none"> <li>Replace the outdoor electronic control P.C. board.</li> </ul>  |
| 7   |  | Lightning  | 8 times      | Current sensor  | Current sensor protection stop is continuously performed twice.  | <ul style="list-style-type: none"> <li>Replace the power board.</li> </ul>  |
| 8   |  | Lightning  | 11 times     | Communication error between P.C. boards   | The communication protection stop between boards is continuously performed twice.  | <ul style="list-style-type: none"> <li>Check the connecting wire between outdoor electronic control P.C. board and power board.</li> </ul>  |
| 9   |  | Lightning  | 12 times     | Zero cross detecting circuit  | The protection stop of the zero cross detecting circuit is continuously performed 10 times.  | <ul style="list-style-type: none"> <li>Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.</li> </ul>   |
| 10  | 'Outdoor unit stops and restarts 3 minutes later' is repeated. | Twice      | Goes out     | IPM protection<br>Lock protection   | Overcurrent is detected after 30 minutes of compressor start-up.<br>Overcurrent is detected within 30 minutes of compressor start-up.  | <ul style="list-style-type: none"> <li>Reconnect compressor connector.</li> <li>Refer to 10-6.④ "How to check inverter/compressor".</li> <li>Check the stop valve.</li> <li>Check the power module (PAM module).</li> </ul> |
| 11  |  | 3 times    | Goes out     | Discharge temperature protection  | Discharge temperature exceeds 116°C during operation and compressor stops. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later.   | <ul style="list-style-type: none"> <li>Check the amount of gas and refrigerant circuit.</li> <li>Refer to 10-6.⑥ "Check of LEV".</li> </ul>   |
| 12  |  | 4 times    | Goes out     | Fin temperature protection<br>P.C. board temperature protection                                       | The fin temperature exceeds 87°C during operation.<br>The P.C. board temperature exceeds 70°C during operation.  | <ul style="list-style-type: none"> <li>Check refrigerant circuit and refrigerant amount.</li> <li>Refer to 10-6.⑥ "Check of outdoor fan motor".</li> </ul>  |
| 13  |  | 5 times    | Goes out     | High-pressure protection  | The outdoor heat exchanger temperature exceeds 70°C during cooling or indoor gas pipe temperature exceeds 70°C during heating.   | <ul style="list-style-type: none"> <li>Check the amount of gas and the refrigerant circuit.</li> <li>Check stop valve.</li> </ul>   |
| 14  |  | 8 times    | Goes out     | Converter protection  | A failure is detected in the operation of the converter during operation.  | <ul style="list-style-type: none"> <li>Replace the power board.</li> </ul>  |
| 15  |  | 9 times    | Goes out     | Bus-bar voltage protection (1)<br>Bus-bar voltage protection (2)                                      | The bus-bar voltage exceeds 400V or falls to 200V or below during compressor operating.<br>The bus-bar voltage exceeds 400V or falls to 50V or below during compressor operating.  | <ul style="list-style-type: none"> <li>Replace the power board.</li> </ul>  |
| 16  |  | 13 times   | Goes out     | Outdoor fan motor   | Failure occurs continuously 3 times within 30 seconds after the fan gets started.  | <ul style="list-style-type: none"> <li>Refer to 10-6.⑥ "Check of outdoor fan motor".</li> </ul>   |
| 17  |  | Lighting   | 8 times      | Current sensor protection   | A short or open circuit is detected in the current sensor during compressor operating.   | <ul style="list-style-type: none"> <li>Replace the power board.</li> </ul>  |
| 18  |  | Lighting   | 11 times     | Communication between P.C. boards protection  | Communication error occurs between the outdoor electronic control P.C. board and power board for more than 10 seconds.   | <ul style="list-style-type: none"> <li>Check the connecting wire between outdoor electronic control P.C. board and power board.</li> </ul>  |
| 19  |  | Lighting   | 12 times     | Zero cross detecting circuit protection   | Zero cross signal cannot be detected while the compressor is operating.  | <ul style="list-style-type: none"> <li>Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.</li> </ul>   |

NOTE 1. The location of LED is illustrated at the right figure. Refer to 10-7.1.

2. LED is lighted during normal operation.

The flashing frequency shows the number of times the LED blinks after every 2.5-second OFF.  
(Example) When the flashing frequency is "2".

Outdoor electronic control P.C. board(Parts side)





| No. | Symptom                | Indication |              | Abnormal point / Condition           | Condition   | Correspondence  |
|-----|------------------------|------------|--------------|--------------------------------------|---|---|
|     |                        | LED1(Red)  | LED2(Yellow) |                                      |   |   |
| 20  | Outdoor unit operates. | Once       | Lighting     | Primary current protection           | The input current exceeds 15A.  | These symptoms do not mean any abnormality of the product, but check the following points.<br>• Check if indoor filters are clogged.<br>• Check if refrigerant is short.<br>• Check if indoor/outdoor unit air circulation is short cycled. |
|     |                        |            |              | Secondary current protection         | The current of the compressor exceeds 15A.  |   |
| 21  |                        | Twice      | Lighting     | High-pressure protection             | The indoor gas pipe temperature exceeds 45°C during heating.  |   |
|     |                        |            |              | Defrosting in cooling                | The indoor gas pipe temperature falls 3°C or below during cooling.  |   |
| 22  |                        | 3 times    | Lighting     | Discharge temperature protection     | The discharge temperature exceeds 100°C during operation.   | • Check refrigerant circuit and refrigerant amount.<br>• Refer to 10-6.⑥ "Check of LEV".<br>• Refer to 10-6.⑥ "Check of outdoor thermistors".   |
| 23  |                        | 4 times    | Lighting     | Low discharge temperature protection | The frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 39°C for more than 20 minutes. |   |
| 24  |                        | 5 times    | Lighting     | Cooling high-pressure protection     | The outdoor heat exchanger temperature exceeds 58°C during operation.   | This symptom does not mean any abnormality of the product, but check the following points.<br>• Check if indoor filters are clogged.<br>• Check if refrigerant is short.<br>• Check if indoor/outdoor unit air circulation is short cycled. |
| 25  | Outdoor unit operates  | 9 times    | Lighting     | Inverter check mode                  | The unit is operated with emergency operation switch.   | —   |
| 26  |                        | Lighting   | Lighting     | Normal                               | —   | —   |

## 10-5. Trouble criterion of main parts

### MUZ-GB50VA

| Part name  | Check method and criterion   | Figure             |                 |           |                 |           |           |           |  |
|--|--|--------------------|-----------------|-----------|-----------------|-----------|-----------|-----------|--|
| Defrost thermistor (RT61)<br>Ambient temperature thermistor (RT65)<br>Outdoor heat exchanger temperature thermistor (RT68) | Measure the resistance with a tester.<br><br>Refer to 10-7. "Test point diagram and voltage",1. "Outdoor electronic control P.C. board", the chart of thermistor.  |                    |                 |           |                 |           |           |           |  |
| Discharge temperature thermistor (RT62)  | Measure the resistance with a tester.<br>Before measurement, hold the thermistor with your hands to warm it up.  |                    |                 |           |                 |           |           |           |  |
| Fin temperature thermistor (RT64)  | Refer to 10-7. "Test point diagram and voltage",1. "Outdoor electronic control P.C. board", the chart of thermistor.   |                    |                 |           |                 |           |           |           |  |
| Compressor   | Measure the resistance between terminals using a tester.<br>(Winding temperature : -10 °C ~ 40 °C)<br><table border="1"><tr><td>Normal</td></tr><tr><td>0.40 Ω ~ 0.49 Ω</td></tr></table>  | Normal             | 0.40 Ω ~ 0.49 Ω |           |                 |           |           |           |  |
| Normal   |  |                    |                 |           |                 |           |           |           |  |
| 0.40 Ω ~ 0.49 Ω  |  |                    |                 |           |                 |           |           |           |  |
| Outdoor fan motor  | Measure the resistance between lead wires using a tester.<br>(Part temperature : -10 °C ~ 40 °C)<br><table border="1"><tr><th>Color of lead wire</th><th>Normal</th></tr><tr><td>RED - BLK</td><td rowspan="3">13.4 Ω ~ 16.4 Ω</td></tr><tr><td>BLK - WHT</td></tr><tr><td>WHT - RED</td></tr></table>     | Color of lead wire | Normal          | RED - BLK | 13.4 Ω ~ 16.4 Ω | BLK - WHT | WHT - RED |           |  |
| Color of lead wire   | Normal   |                    |                 |           |                 |           |           |           |  |
| RED - BLK  | 13.4 Ω ~ 16.4 Ω  |                    |                 |           |                 |           |           |           |  |
| BLK - WHT  |  |                    |                 |           |                 |           |           |           |  |
| WHT - RED  |  |                    |                 |           |                 |           |           |           |  |
| R. V. coil   | Measure the resistance using a tester. (Part temperature : -10 °C ~ 40 °C)<br><table border="1"><tr><td>Normal</td></tr><tr><td>2.6 kΩ ~ 3.3 kΩ</td></tr></table>  | Normal             | 2.6 kΩ ~ 3.3 kΩ |           |                 |           |           |           |  |
| Normal   |  |                    |                 |           |                 |           |           |           |  |
| 2.6 kΩ ~ 3.3 kΩ  |  |                    |                 |           |                 |           |           |           |  |
| Linear expansion valve   | Measure the resistance using a tester.(Part temperature : -10 °C ~ 40 °C)<br><table border="1"><tr><th>Color of lead wire</th><th>Normal</th></tr><tr><td>WHT - RED</td><td rowspan="4">37.4 Ω ~ 53.9 Ω</td></tr><tr><td>RED - ORN</td></tr><tr><td>YLW - BRN</td></tr><tr><td>BRN - BLU</td></tr></table> | Color of lead wire | Normal          | WHT - RED | 37.4 Ω ~ 53.9 Ω | RED - ORN | YLW - BRN | BRN - BLU |  |
| Color of lead wire   | Normal   |                    |                 |           |                 |           |           |           |  |
| WHT - RED  | 37.4 Ω ~ 53.9 Ω  |                    |                 |           |                 |           |           |           |  |
| RED - ORN  |  |                    |                 |           |                 |           |           |           |  |
| YLW - BRN  |  |                    |                 |           |                 |           |           |           |  |
| BRN - BLU  |  |                    |                 |           |                 |           |           |           |  |

## 10-6. Troubleshooting flow

### MUZ-GB50VA

#### Ⓐ How to check inverter/ compressor

Disconnect the terminal of the compressor. 3 minutes after turning on the power supply, start EMERGENCY OPERATION.

Measure the voltage between each lead wire leading to the compressor.  
U (BLK) - V (WHT)  
V (WHT) - W (RED)  
W (RED) - U (BLK)  
Is voltage output on right table?

- ※
- After the outdoor fan starts running, wait for 1 minute or more before measuring the voltage.
  - The output voltage values have the tolerance of  $\pm 20\%$ .

| COOL                     | HEAT                    |
|--------------------------|-------------------------|
| 122V~154V<br>(56Hz~71Hz) | 74V~126V<br>(30Hz~58Hz) |

Is output balanced?

Yes

Is the input voltage to the outdoor electronic control P.C. board 370V or more?

Replace the power board.

Turn off power supply of indoor and outdoor unit, and measure the compressor winding resistance between the compressor terminals.  
Is the resistance between each terminal normal?

Replace the compressor.

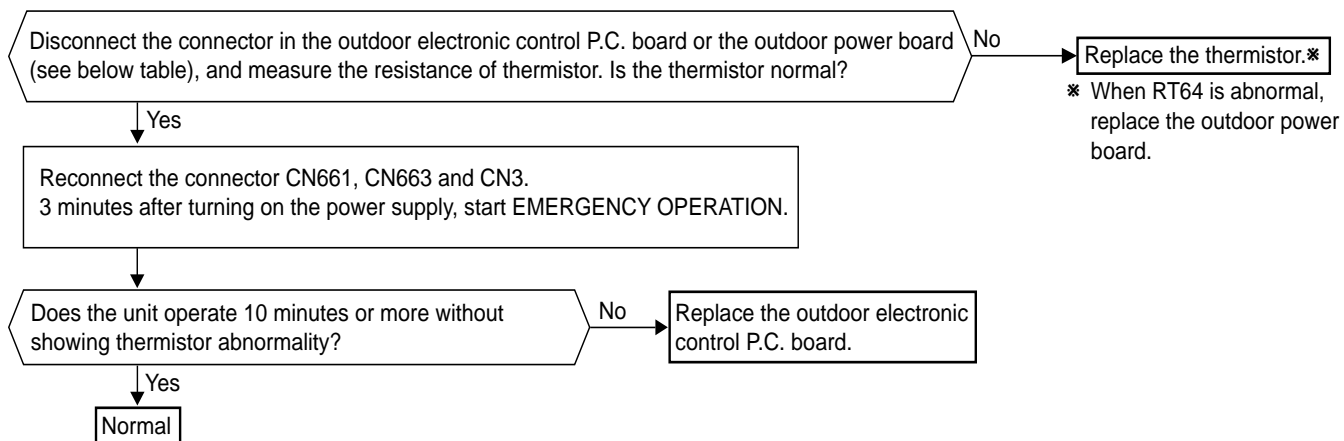
Reconnect the lead wire of compressor, and turn on power supply to indoor and outdoor unit.  
3 minutes later, start EMERGENCY OPERATION.

Clarify the causes by counting time until the inverter stops.  
0 to 10 seconds: compressor rare short  
10 to 60 seconds: compressor lock  
60 seconds to 5minutes: refrigerant circuit defective  
5 minutes or more: normal



- When OPERATION INDICATOR lamp flashes 6-time.
- When thermistor is abnormal.

### Ⓑ Check of outdoor thermistors

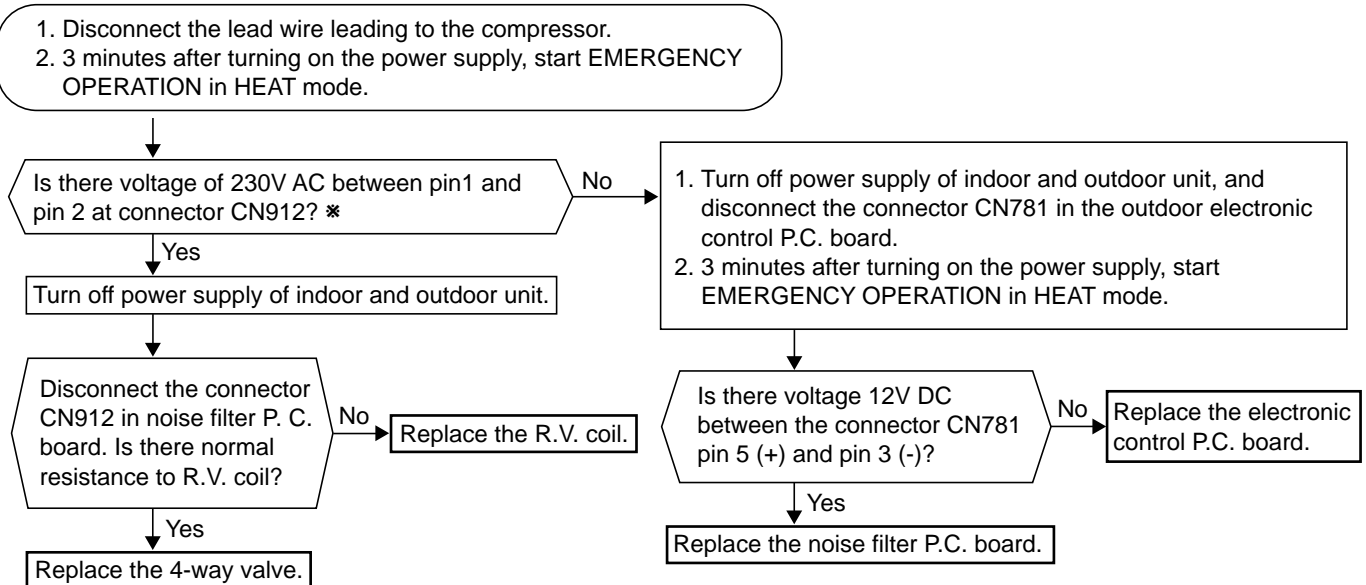


| Thermistor                         | Symbol | Connector, Pin No.          | Board                                 |
|------------------------------------|--------|-----------------------------|---------------------------------------|
| Defrost                            | RT61   | Between CN661 pin1 and pin2 | Outdoor electronic control P.C. board |
| Discharge temperature              | RT62   | Between CN661 pin3 and pin4 |                                       |
| Outdoor heat exchanger temperature | RT68   | Between CN661 pin7 and pin8 |                                       |
| Ambient temperature                | RT65   | Between CN663 pin1 and pin2 |                                       |
| Fin temperature                    | RT64   | Between CN3 pin1 and pin2   | Outdoor power board                   |

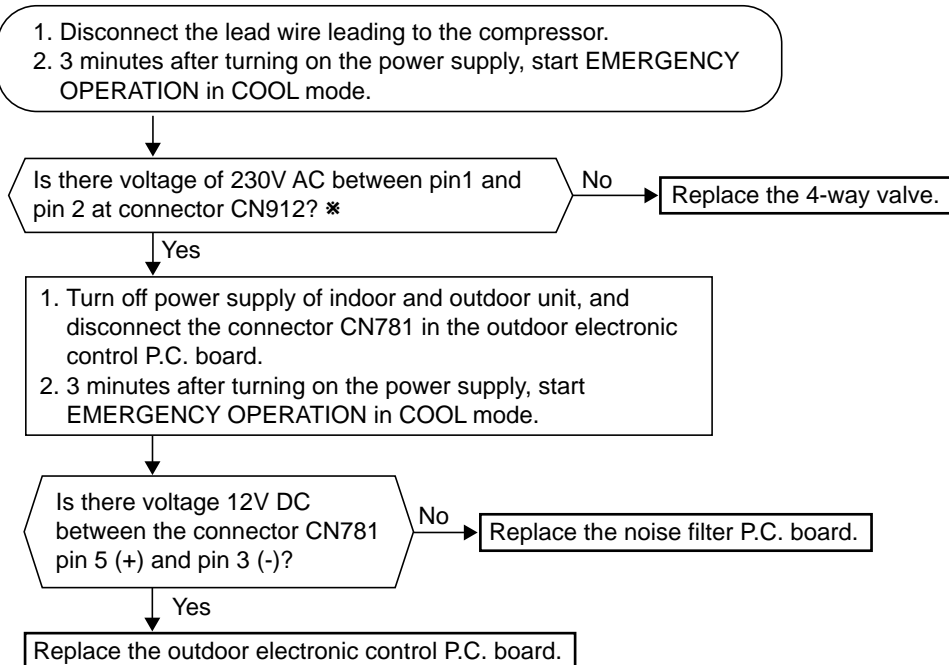
The cooling operation or heating operation does not operate. (LED display: Both LED1 and LED2 lighting)

### © Check of R.V. coil

#### • When heating operation does not work.



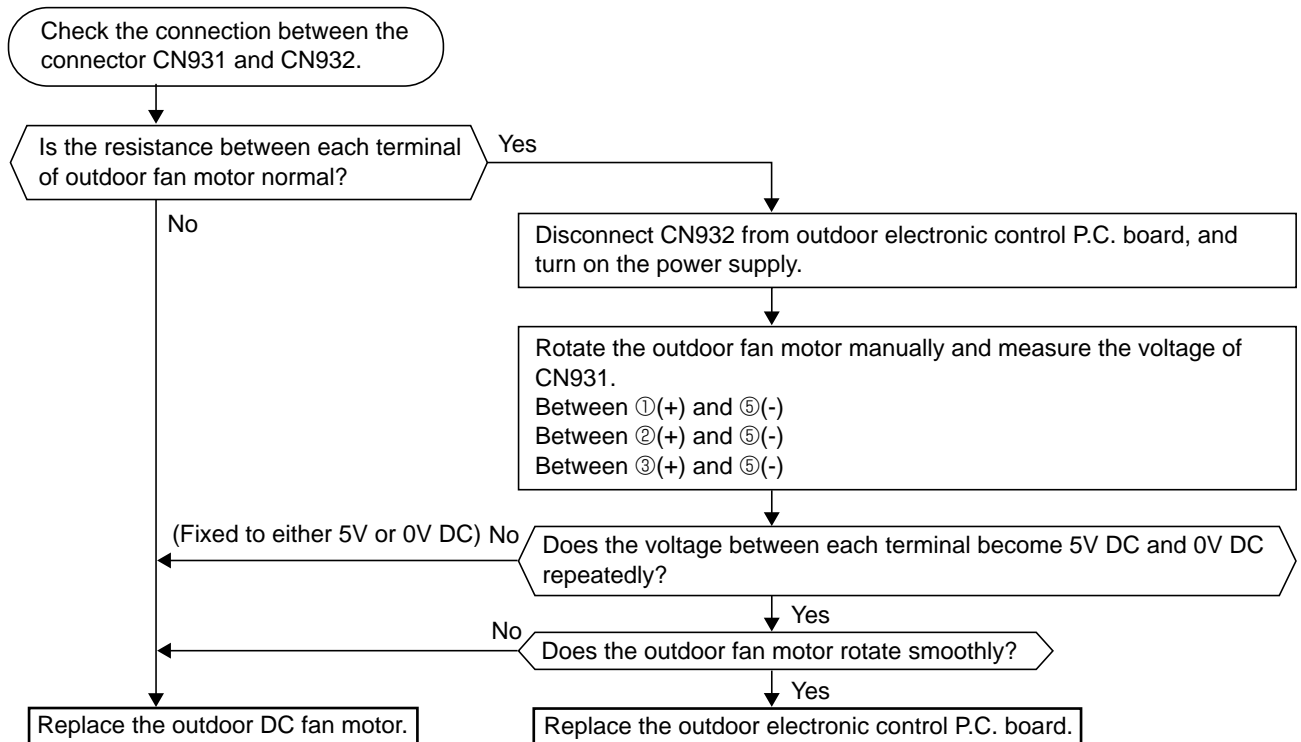
#### • When cooling operation does not work.



\* If the connector CN912 is not connected or R.V. coil is open, voltage occurs between terminals even when the control is OFF.

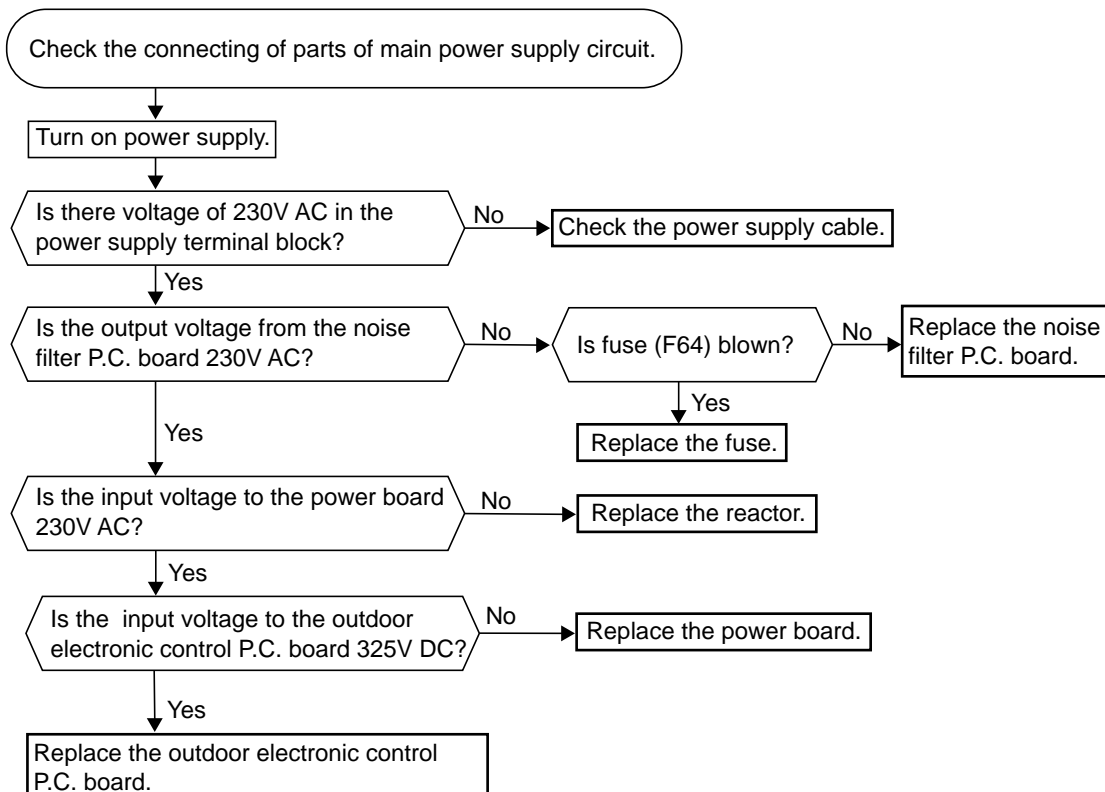
- Fan motor does not operate or stops operating shortly after starting the operation.

### ① Check of outdoor fan motor



Outdoor unit does not operate. (LED display: display OFF)

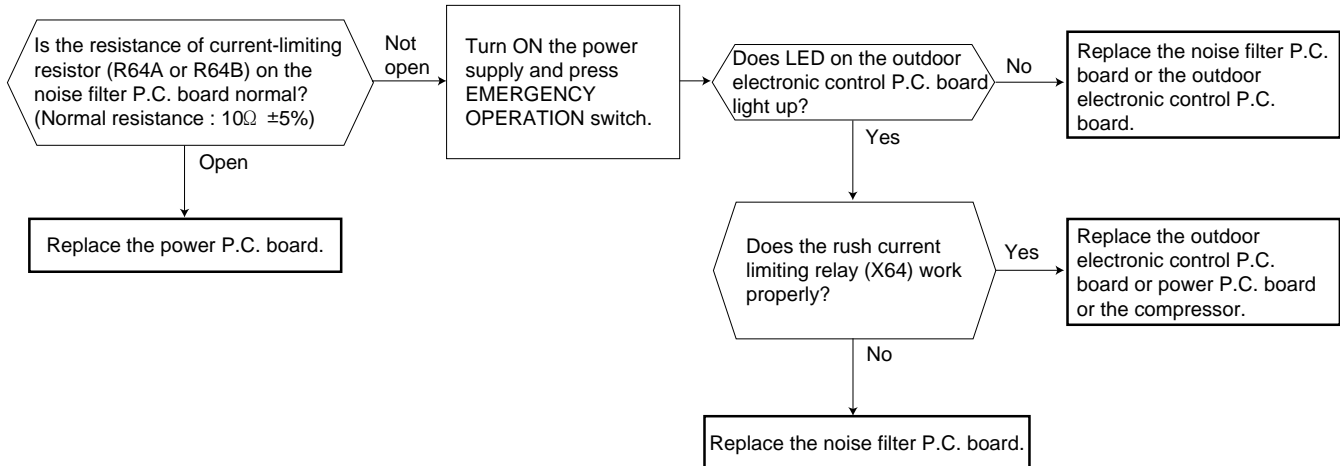
### ② Check of power supply



Outdoor unit does not operate at all, or stops immediately due to overcurrent.

### Ⓕ Check of current-limiting resistor

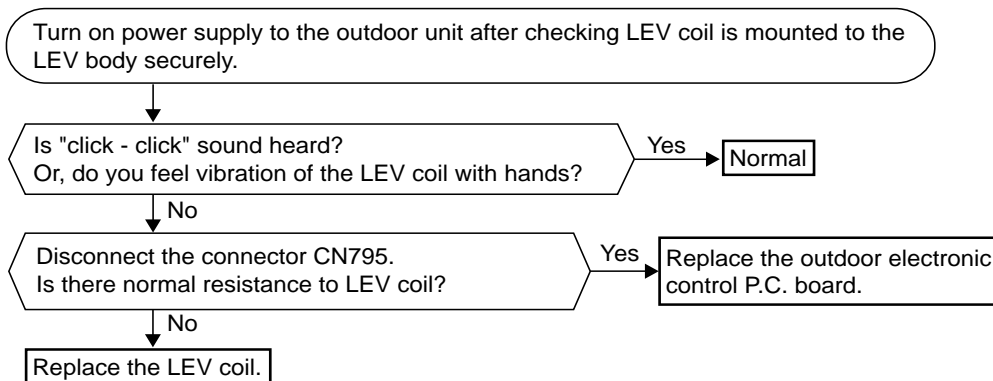
When the current-limiting resistor is open, the rush current limiting relay (X64) may not work properly.



● Check other electric parts in the main circuit together in the case that the current-limiting resistor is defective.

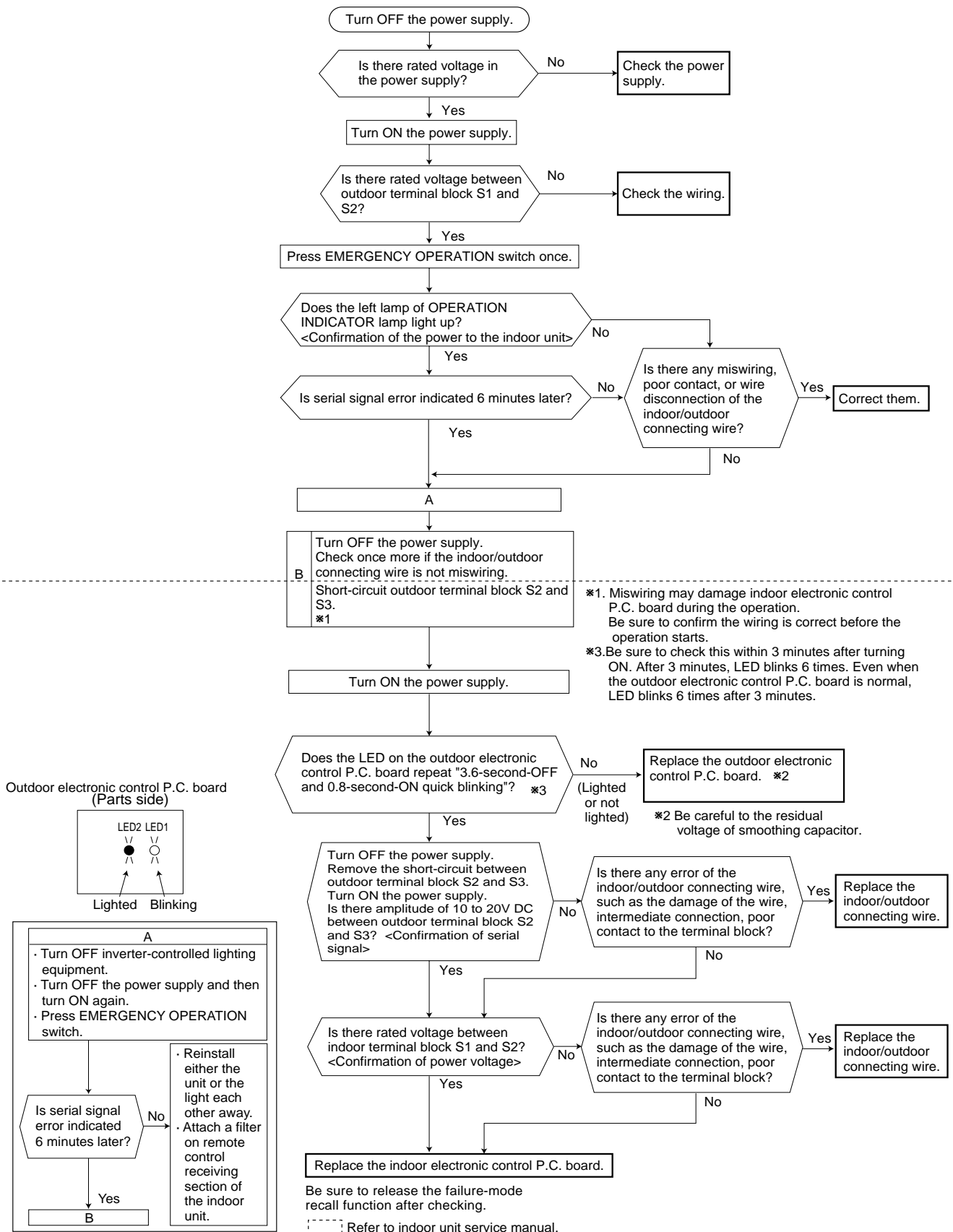
- When cooling, heat exchanger of non-operating indoor unit frosts.
- When heating, non-operating indoor unit gets warm.

### Ⓖ Check of LEV

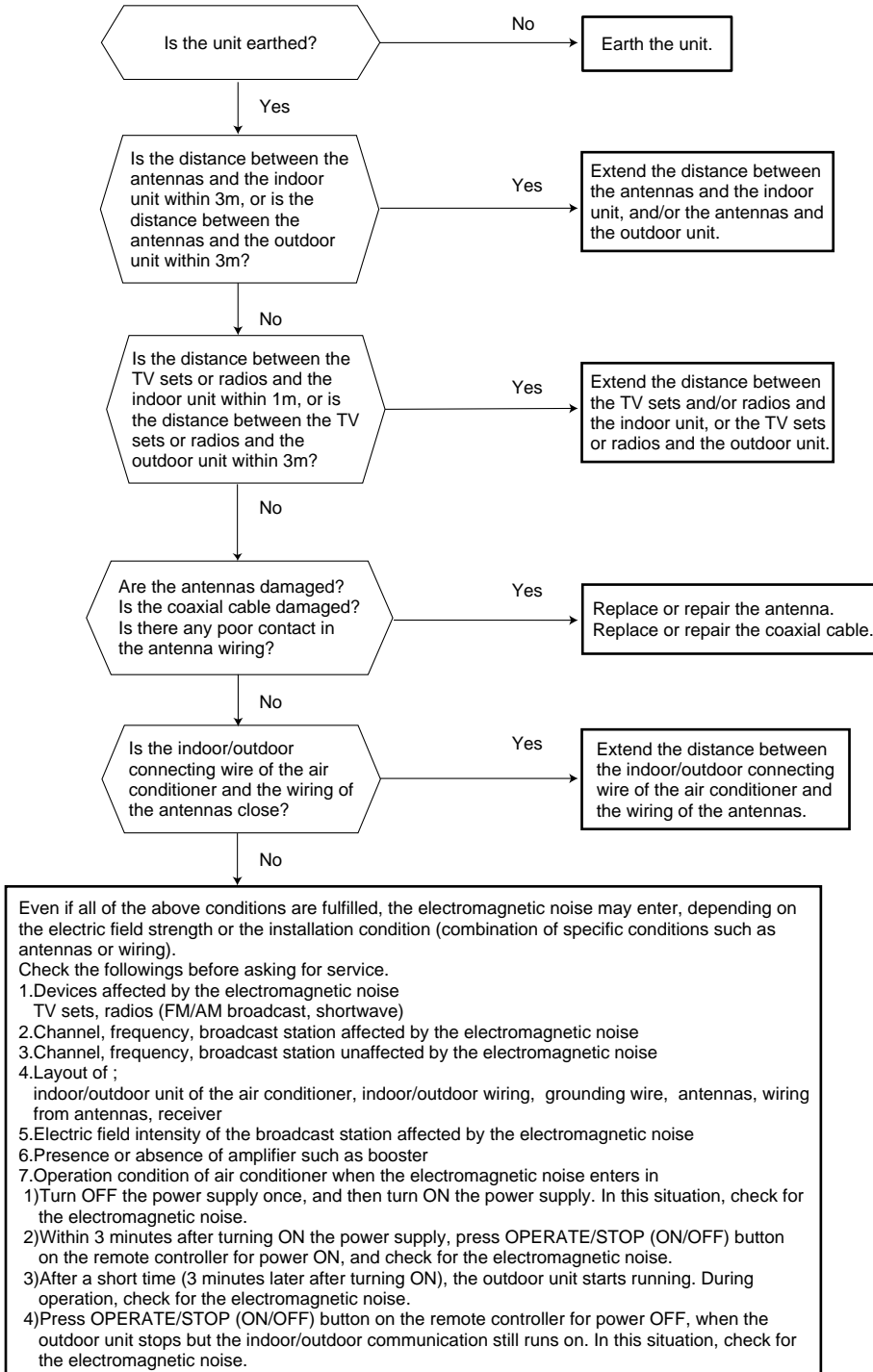


- When unit cannot operate neither by the remote controller nor by EMERGENCY OPERATION switch.  
Indoor unit does not operate.
- When OPERATION INDICATOR lamp flashes ON and OFF every 0.5-second.  
Outdoor unit doesn't operate.

### Ⓜ How to check miswiring and serial signal error (when outdoor unit does not work)



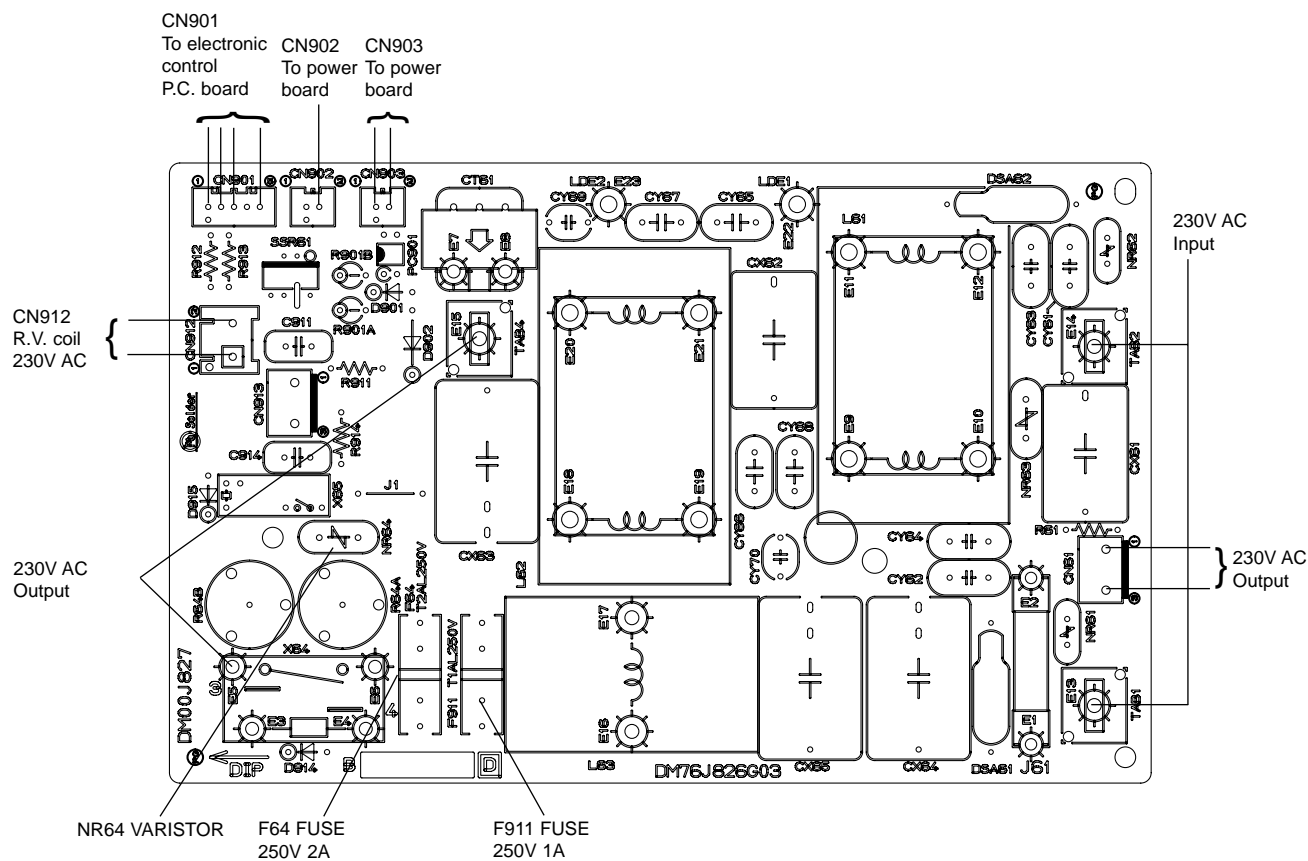
## ① Electromagnetic noise enters into TV sets or radios



## 1. Outdoor electronic control P.C. board MUZ-GB50VA

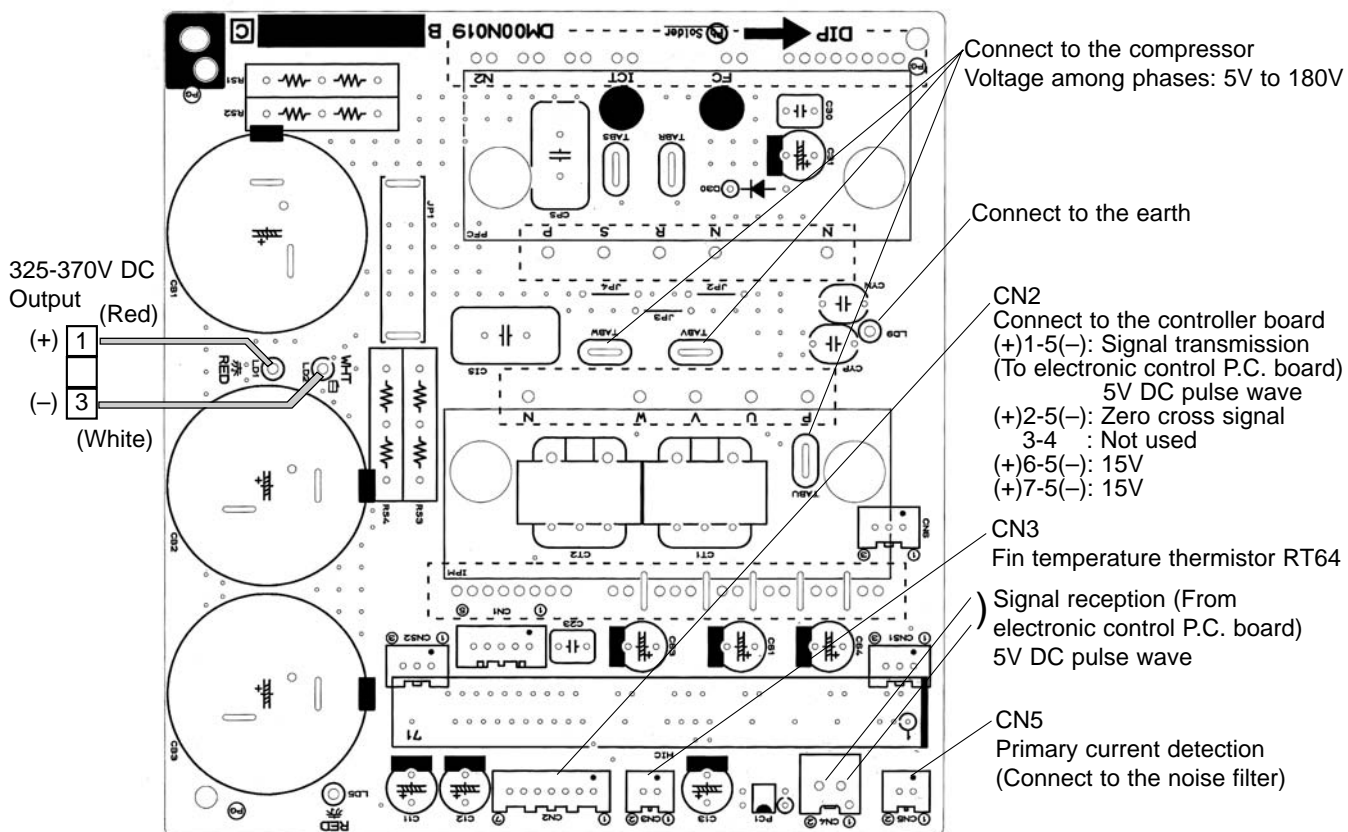
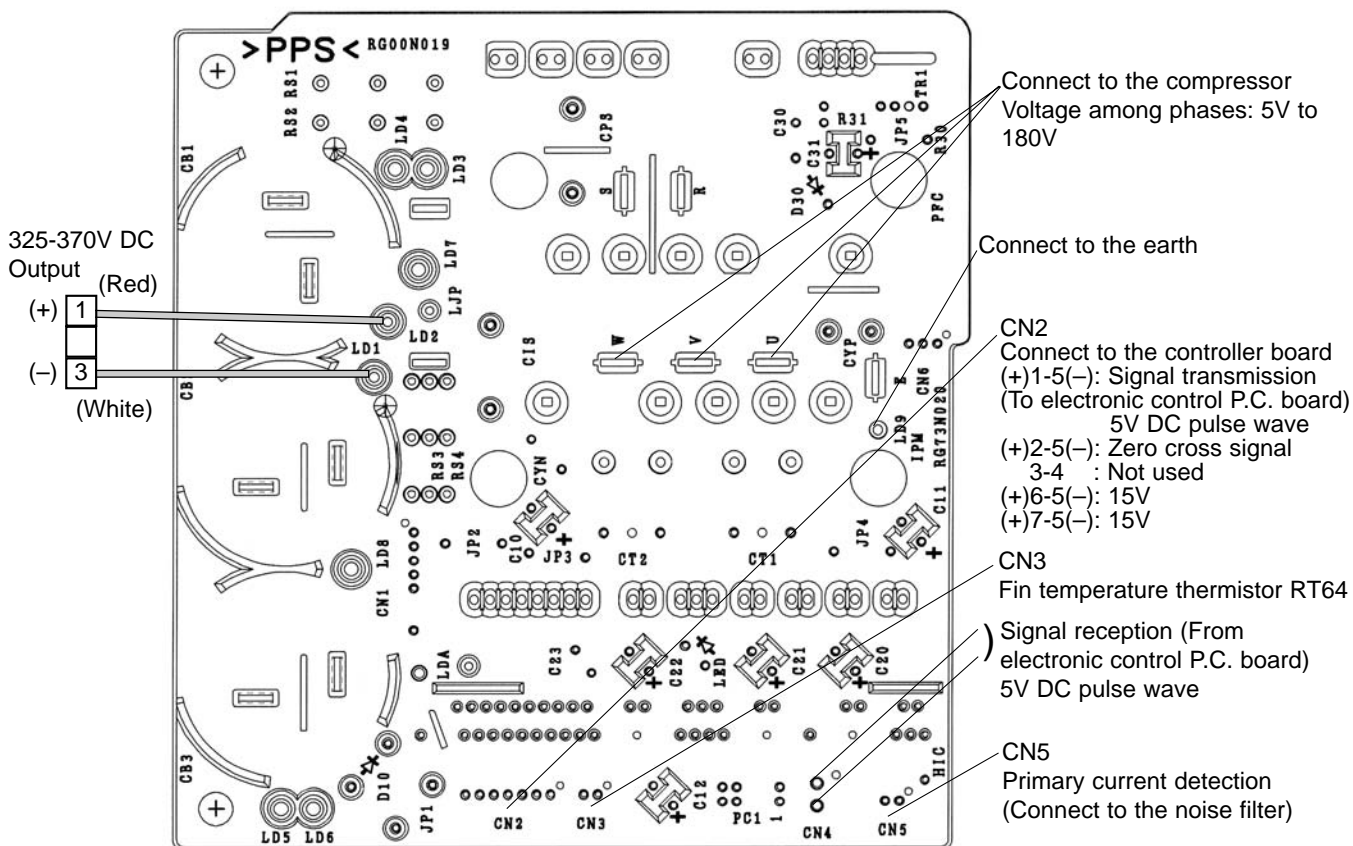


## 2. Noise filter P.C. board MUZ-GB50VA





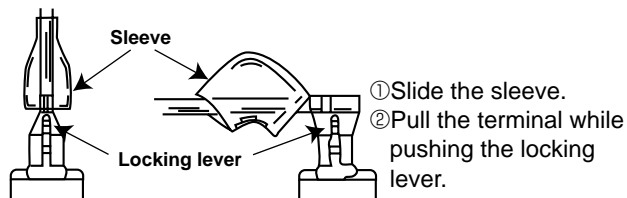
### 3. Outdoor power board MUZ-GB50VA



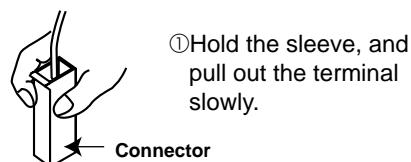
## &lt;"Terminal with locking mechanism" Detaching points&gt;

The terminal which has the locking mechanism can be detached as shown below.  
There are two types ( Refer to (1) and (2)) of the terminal with locking mechanism.  
The terminal without locking mechanism can be detached by pulling it out.  
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



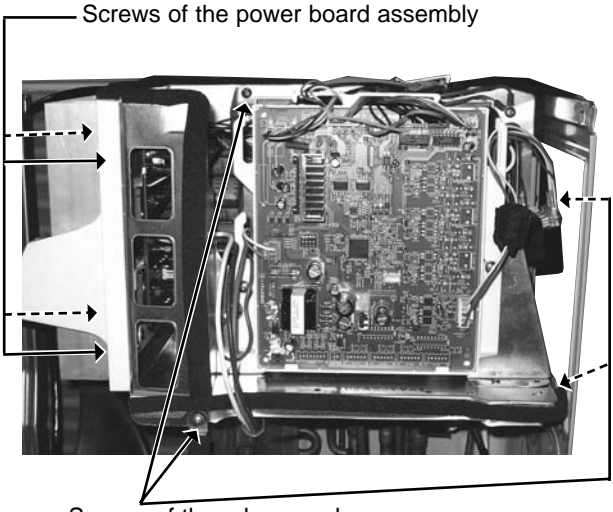
(2) The terminal with this connector has the locking mechanism.



## MUZ-GB50VA

| OPERATING PROCEDURE   | PHOTOS                                      |
|---|---|
| <p><b>1. Removing the cabinet</b></p> <ol style="list-style-type: none"> <li>(1) Remove the screws of the service panel.</li> <li>(2) Remove the screws of the top panel.</li> <li>(3) Remove the screw of the valve cover.</li> <li>(4) Remove the service panel.</li> <li>(5) Remove the top panel.</li> <li>(6) Remove the valve cover.</li> <li>(7) Disconnect the power supply and indoor/ outdoor connecting wire.</li> <li>(8) Remove the screws of the cabinet.</li> <li>(9) Remove the cabinet.</li> <li>(10) Remove the screws of the back panel.</li> <li>(11) Remove the back panel.</li> </ol> <p><b>Photo 3</b></p> | <p><b>Photo 1</b></p> <p><b>Photo 2</b></p> |



| OPERATING PROCEDURE   | PHOTOS  |
|---|---|
| <p><b>2. Removing the inverter assembly, inverter P.C. board and power board</b></p> <p>(1) Remove the top panel, cabinet and service panel.<br/>(Refer to 1.)</p> <p>(2) Remove the back panel.(Refer to 1.)</p> <p>(3) Disconnect the following connectors;<br/>&lt;Electronic control P.C. board&gt;<br/>CN931 and CN932 (Fan motor)<br/>CN795 (LEV)<br/>CN661 (Discharge temperature thermistor, defrost thermistor and outdoor heat exchanger temperature thermistor)<br/>CN663 (Ambient temperature thermistor)<br/>&lt;Noise filter P.C. board&gt;<br/>CN912 (R.V. coil)</p> <p>(4) Remove the compressor connector.</p> <p>(5) Remove the screws fixing the relay panel.</p> <p>(6) Remove the inverter assembly.</p> <p>(7) Disconnect all connectors and lead wires on the electronic control P.C. board.</p> <p>(8) Remove the electronic control P.C. board from the inverter assembly.</p> <p>(9) Remove the screws fixing the power board assembly.</p> <p>(10) Disconnect all connectors and lead wires on the power board.</p> <p>(11) Remove the power board from the inverter assembly.</p> <p>(12) Disconnect all connectors and lead wires on the noise filter P.C. board.</p> <p>(13) Remove the noise filter P.C. board from the inverter assembly.</p> | <p><b>Photo 4</b></p>  <p>Screws of the power board assembly</p> <p>Screws of the relay panel</p> |
| <p><b>3. Removing R.V. coil</b></p> <p>(1) Remove the top panel, cabinet and service panel.<br/>(Refer to 1.)</p> <p>(2) Remove the back panel. (Refer to 1.)</p> <p>(3) Disconnect the following connectors;<br/>&lt;Noise filter P.C. board&gt;<br/>CN912 (R.V. coil)</p> <p>(4) Remove the R.V. coil. (Photo 9)</p>  |   |

## OPERATING PROCEDURE

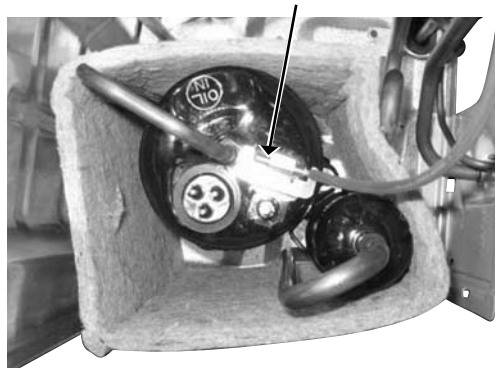
### 4. Removing the defrost thermistor, discharge temperature thermistor, outdoor heat exchanger temperature thermistor and ambient temperature thermistor

- (1) Remove the top panel, cabinet and service panel.  
(Refer to 1.)
- (2) Remove the back panel. (Refer to 1.)
- (3) Disconnect the following connectors;  
<Electronic control P.C. board>  
CN661 (Discharge temperature thermistor, defrost thermistor and outdoor heat exchanger temperature thermistor)  
CN663 (Ambient temperature thermistor)
- (4) Pull out the defrost thermistor from its holder. (Photo 6)
- (5) Pull out the discharge temperature thermistor from its holder. (Photo 5)
- (6) Pull out the outdoor heat exchanger temperature thermistor from its holder. (Photo 6)
- (7) Pull out the ambient temperature thermistor from its holder. (Photo 6)

## PHOTOS

**Photo 5**

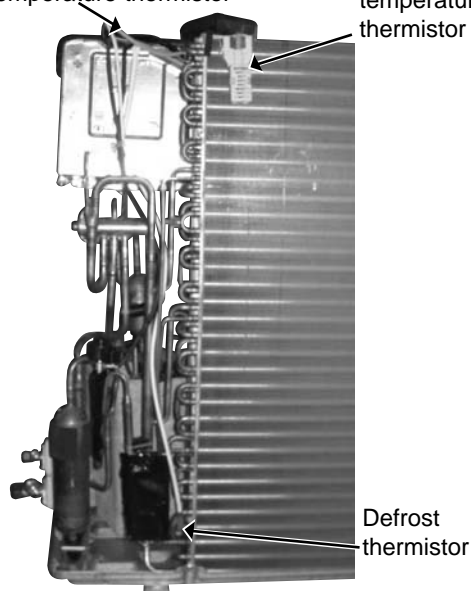
Discharge temperature thermistor



**Photo 6**

Outdoor heat exchanger temperature thermistor

Ambient temperature thermistor

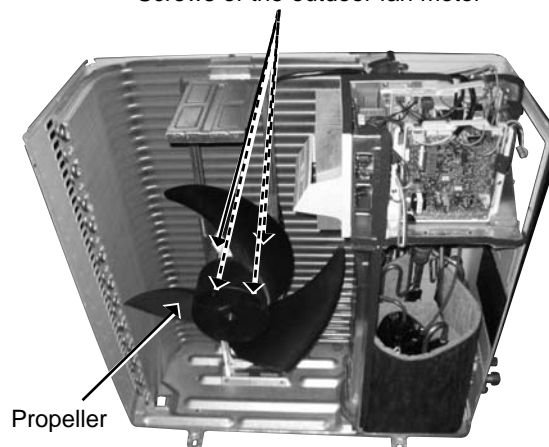


### 5. Removing outdoor fan motor


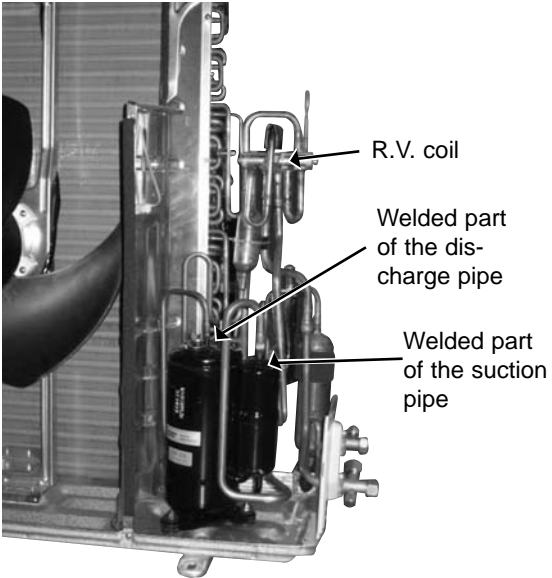
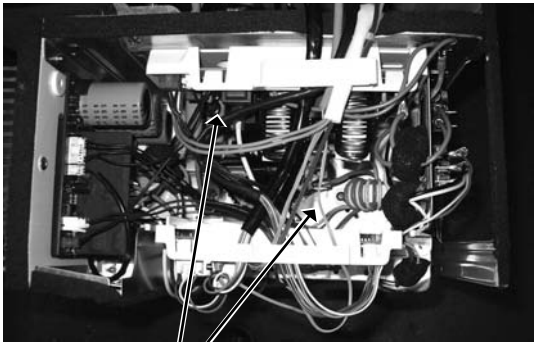
- (1) Remove the top panel, cabinet and service panel.  
(Refer to 1.)
- (2) Remove the back panel. (Refer to 1.)
- (3) Disconnect the following connectors;  
<Electronic control P.C. board>  
CN931 and CN932 (Fan motor)
- (4) Remove the propeller.
- (5) Remove the screws fixing the fan motor.
- (6) Remove the fan motor.

**Photo 7**

Screws of the outdoor fan motor

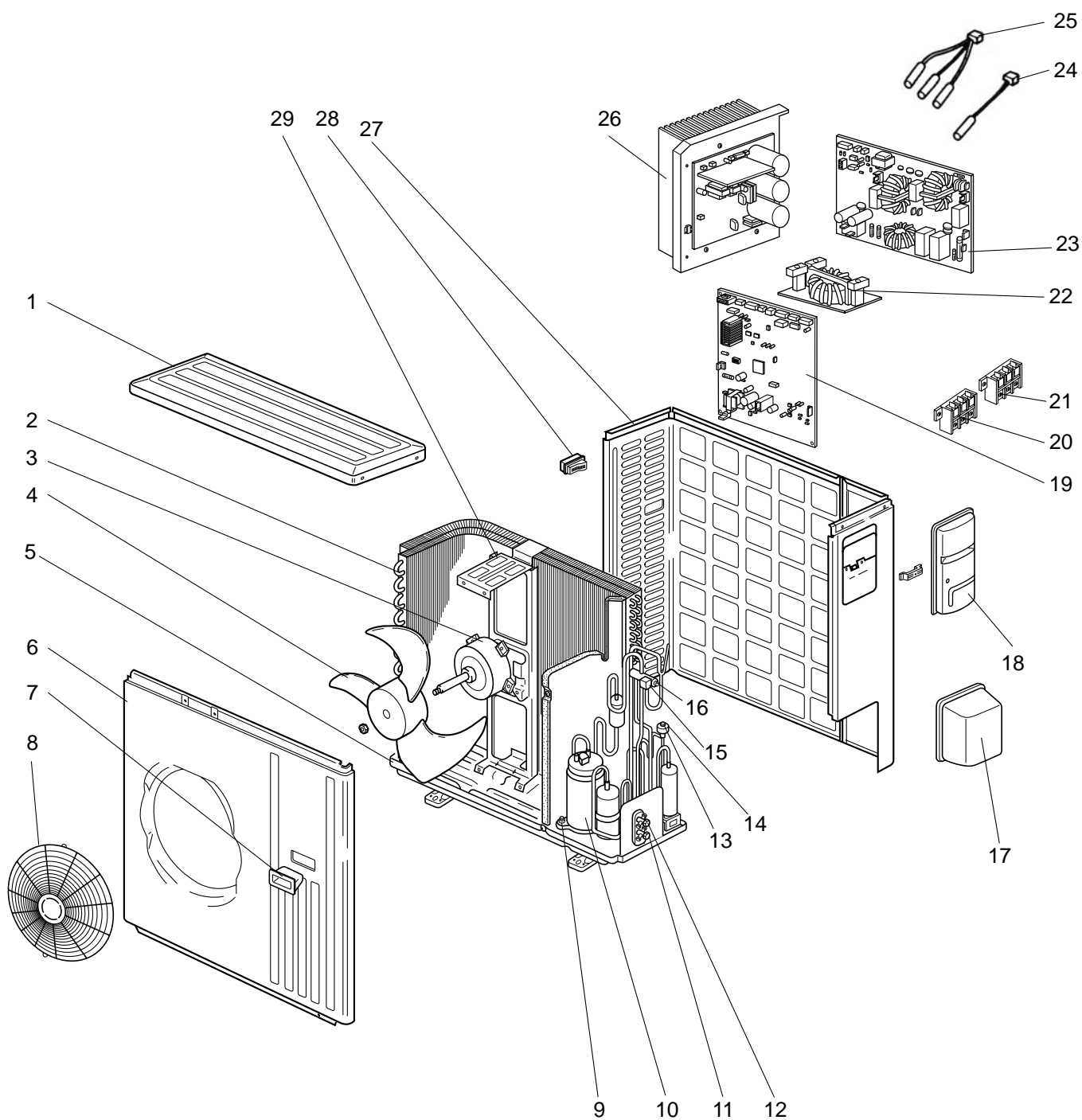




| OPERATING PROCEDURE  | PHOTOS   |
|--|--|
| <p><b>6. Removing the compressor and 4-way valve</b></p> <p>(1) Remove the top panel, cabinet and service panel. (Refer to 1.)</p> <p>(2) Remove the back panel. (Refer to 1.)</p> <p>(3) Remove the inverter assembly. (Refer to 2.)</p> <p>(4) Recover gas from the refrigerant circuit.</p> <p><b>NOTE:</b> Recover gas from the pipes until the pressure gauge shows 0 kg/cm<sup>2</sup> (0 MPa).</p> <p>(5) Detach the welded part of the suction and the discharge pipe connected with compressor. (Photo 9)</p> <p>(6) Remove the compressor nuts.</p> <p>(7) Remove the compressor.</p> <p>(8) Detach the welded part of 4-way valve and pipe. (Photo 8)</p> | <p><b>Photo 8</b></p>  <p>Welded parts of 4-way valve</p> <p><b>Photo 9</b></p>  <p>R.V. coil</p> <p>Welded part of the discharge pipe</p> <p>Welded part of the suction pipe</p> |
| <p><b>7. Removing the reactor</b></p> <p>(1) Remove the top panel. (Refer to 1.)</p> <p>(2) Disconnect the reactor lead wire.</p> <p>(3) Remove the screws of the reactor, and remove the reactor.</p>   | <p><b>Photo 10</b></p>  <p>Screws of the reactor</p>   |

## MUZ-GB50VA

## 12-1. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS



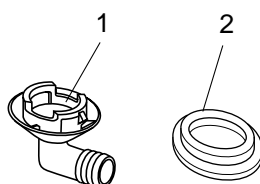
## MUZ-GB50VA

### 12-1. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS

Part numbers that are circled are not shown in the illustration.

| No. | RoHS | Part No.    | Part Name                             | Symbol<br>in Wiring<br>Diagram | Q'ty/unit     |               | Remarks                                      |
|-----|------|-------------|---------------------------------------|--------------------------------|---------------|---------------|--|
|     |      |             |                                       |                                | MUZ-GB50VA -  |               |  |
|     |      |             |                                       |                                | <div>E1</div> | <div>E2</div> |  |
| 1   | G    | E12 819 297 | TOP PANEL                             |                                | 1             | 1             |  |
| 2   | G    | E12 851 630 | OUTDOOR HEAT EXCHANGER                |                                | 1             | 1             |  |
| 3   | G    | E12 938 301 | OUTDOOR FAN MOTOR                     | MF                             | 1             | 1             | RC0J60-□□                                    |
| 4   | G    | E12 851 501 | PROPELLER                             |                                | 1             | 1             |  |
| 5   | G    | E12 851 290 | BASE                                  |                                | 1             | 1             |  |
| 6   | G    | E12 819 232 | CABINET                               |                                | 1             | 1             |  |
| 7   | G    | E12 819 009 | HANDLE                                |                                | 1             | 1             |  |
| 8   | G    | E12 819 521 | FAN GUARD                             |                                | 1             | 1             |  |
| 9   | G    | E12 C34 506 | COMPRESSOR RUBBER SET                 |                                | 3             | 3             | 3RUBBERS/SET                                 |
| 10  | G    | E12 939 900 | COMPRESSOR                            | MC                             | 1             |               | SNB130FLDH1                                  |
|     | G    | E12 C06 900 | COMPRESSOR                            | MC                             |               | 1             | SNB130FLEH1                                  |
| 11  | G    | E12 851 661 | STOP VALVE(GAS)                       |                                | 1             | 1             | φ12.7  |
| 12  | G    | E12 821 662 | STOP VALVE(LIQUID)                    |                                | 1             | 1             | φ6.35  |
| 13  | G    | E12 851 640 | EXPANSION VALVE                       |                                | 1             | 1             |  |
| 14  | G    | E12 851 493 | EXPANSION VALVE COIL                  | LEV                            | 1             | 1             |  |
| 15  | G    | E12 935 490 | R.V. COIL                             | 21S4                           | 1             | 1             |  |
| 16  | G    | E12 891 961 | 4-WAY VALVE                           |                                | 1             | 1             |  |
| 17  | G    | E12 819 650 | VALVE COVER                           |                                | 1             | 1             |  |
| 18  | G    | E12 819 245 | SERVICE PANEL                         |                                | 1             | 1             |  |
| 19  | G    | E12 C95 450 | OUTDOOR ELECTRONIC CONTROL P.C. BOARD |                                | 1             | 1             |  |
| 20  | G    | E12 935 374 | TERMINAL BLOCK                        | TB1                            | 1             | 1             | 3P   |
| 21  | G    | E12 823 375 | TERMINAL BLOCK                        | TB2                            | 1             | 1             | 3P   |
| 22  | G    | E12 A87 337 | REACTOR                               | L                              | 1             | 1             |  |
| 23  | G    | E12 935 444 | NOISE FILTER P.C. BOARD               |                                | 1             | 1             |  |
| 24  | G    | E12 935 309 | AMBIENT TEMPERATURE THERMISTOR        | RT65                           | 1             | 1             | DEFROST, DISCHARGE<br>OUTDOOR HEAT EXCHANGER |
| 25  | G    | E12 851 308 | THERMISTOR SET                        | RT61,RT62,RT68                 | 1             | 1             |  |
| 26  | G    | E12 935 440 | POWER BOARD                           |                                | 1             | 1             | Including heat sink and RT64                 |
| 27  | G    | E12 819 233 | BACK PANEL(OUT)                       |                                | 1             | 1             |  |
| 28  | G    | E12 817 009 | HANDLE                                |                                | 1             | 1             |  |
| 29  | G    | E12 851 515 | MOTOR SUPPORT                         |                                | 1             | 1             |  |
| 30  | G    | E12 127 382 | FUSE                                  | F801                           | 1             | 1             | T3.15AL250V                                  |
| 31  | G    | E12 737 382 | FUSE                                  | F911                           | 1             | 1             | T1AL250V                                     |
| 32  | G    | E12 935 385 | FUSE & VARISTOR                       | F64,NR64                       | 1             | 1             | T2AL250V                                     |
| 33  | G    | E12 851 936 | CAPILLARY TUBE(TAPER PIPE)            |                                | 1             | 1             | φ3.6xφ2.4x50                                 |
| 34  | G    | E12 853 299 | OIL SEPARATOR                         |                                | 1             | 1             |  |
| 35  | G    | E12 861 936 | CAPILLARY TUBE                        |                                | 1             | 1             | φ1.8xφ0.6x1000                               |

**MUZ-GB50VA**  
**12-2. ACCESSORY**



| No. | RoHS | Part No.    | Part Name    | Symbol<br>in Wiring<br>Diagram | Q'ty/unit    |    | Remarks |
|-----|------|-------------|--------------|--------------------------------|--------------|----|---------|
|     |      |             |              |                                | MUZ-GB50VA - |    |         |
|     |      |             |              |                                | E1           | E2 |         |
| 1   | G    | E12 817 704 | DRAIN SOCKET |                                | 1            | 1  |         |
| 2   | G    | E12 444 705 | DRAIN CAP    |                                | 2            | 2  | φ33     |



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Distributed in Sep. 2007. No. OB455 REVISED EDITION-D 6

Distributed in Jun. 2007. No. OB455 REVISED EDITION-C 6

Distributed in Apr. 2007. No. OB455 REVISED EDITION-B 6

Distributed in Aug. 2006. No. OB455 REVISED EDITION-A 6

Distributed in Mar. 2006. No. OB455 6

Made in Japan

New publication, effective Sep. 2007

Specifications subject to change without notice.